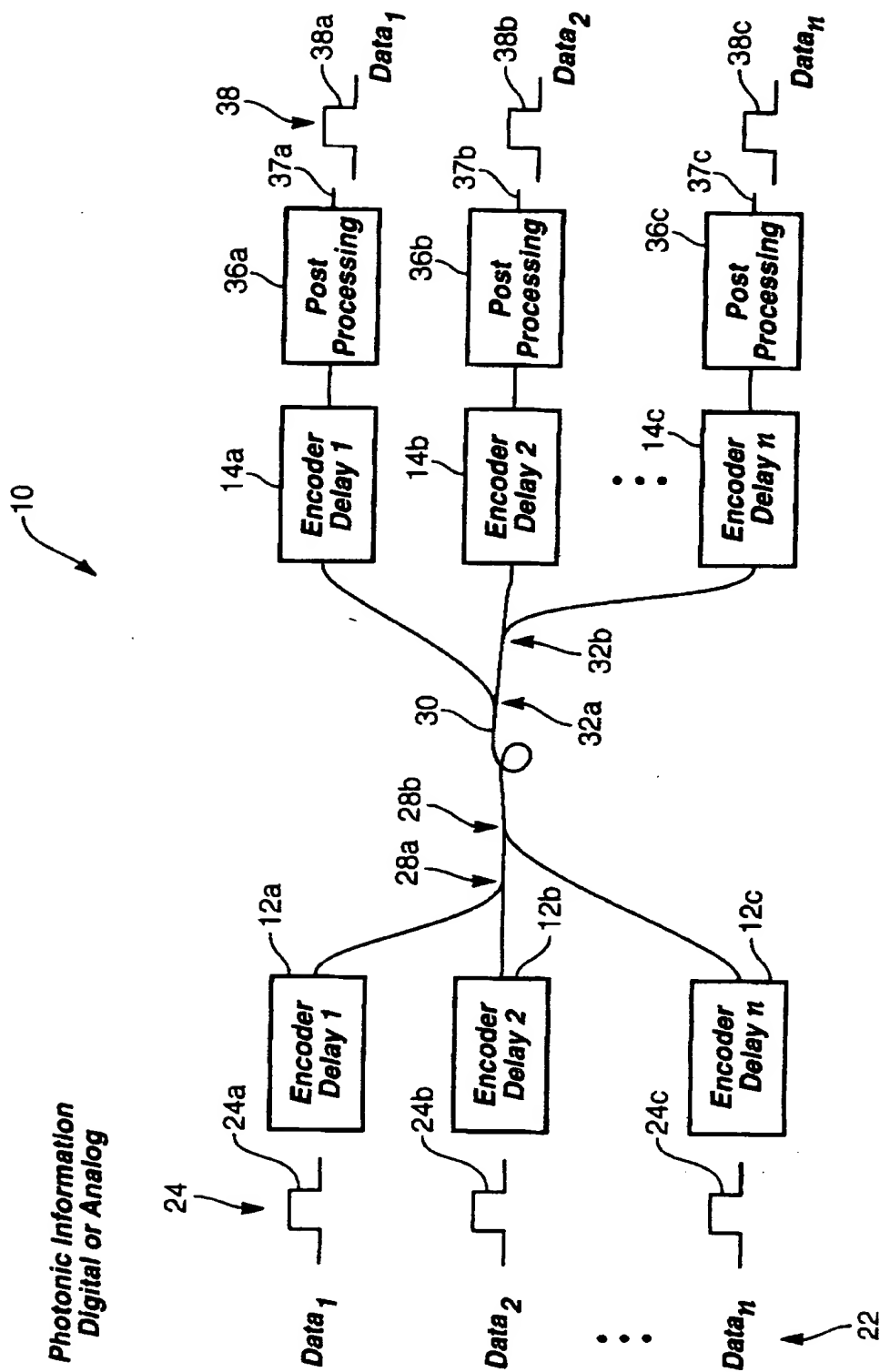
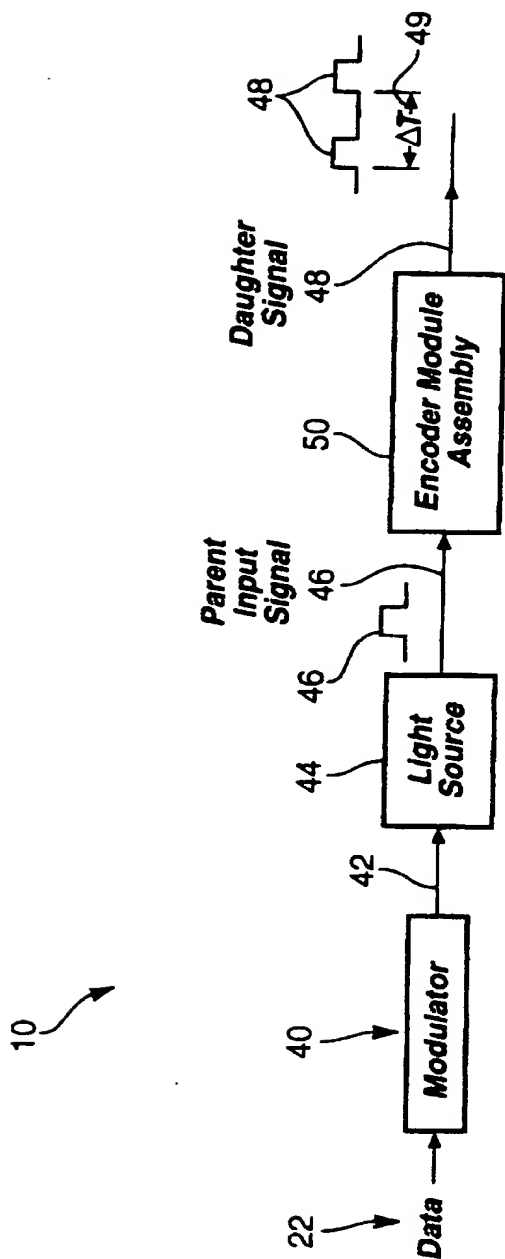


#### 2807.2.4.10



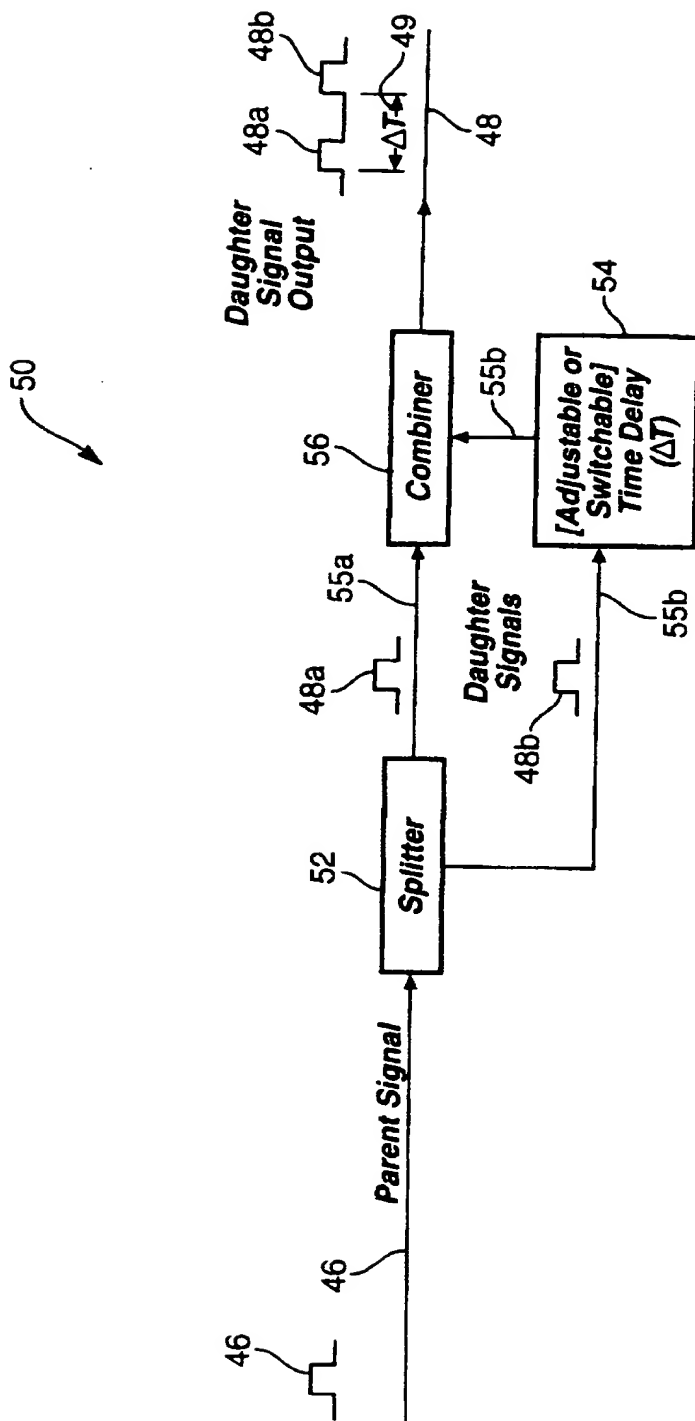
**Fig. 2**  
2807.2.4.10



Differential Delay Multiplexer Sender/Encoder

Fig. 3

2807.2.4.10



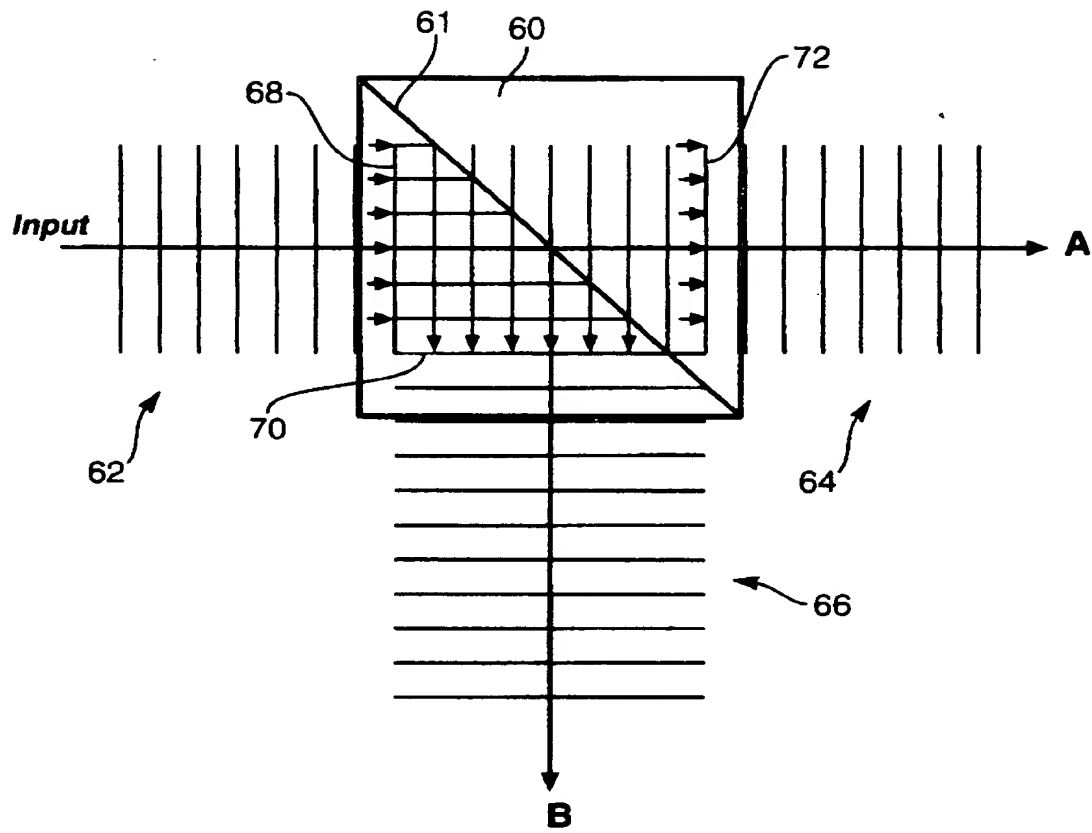
Differential Delay Multiplexer (DDM) Sender/Encoder

**Fig. 4**

2807.2.4.



#### 2807.2.4.



Amplitude or Polarization Splitter

**FIG. 7**

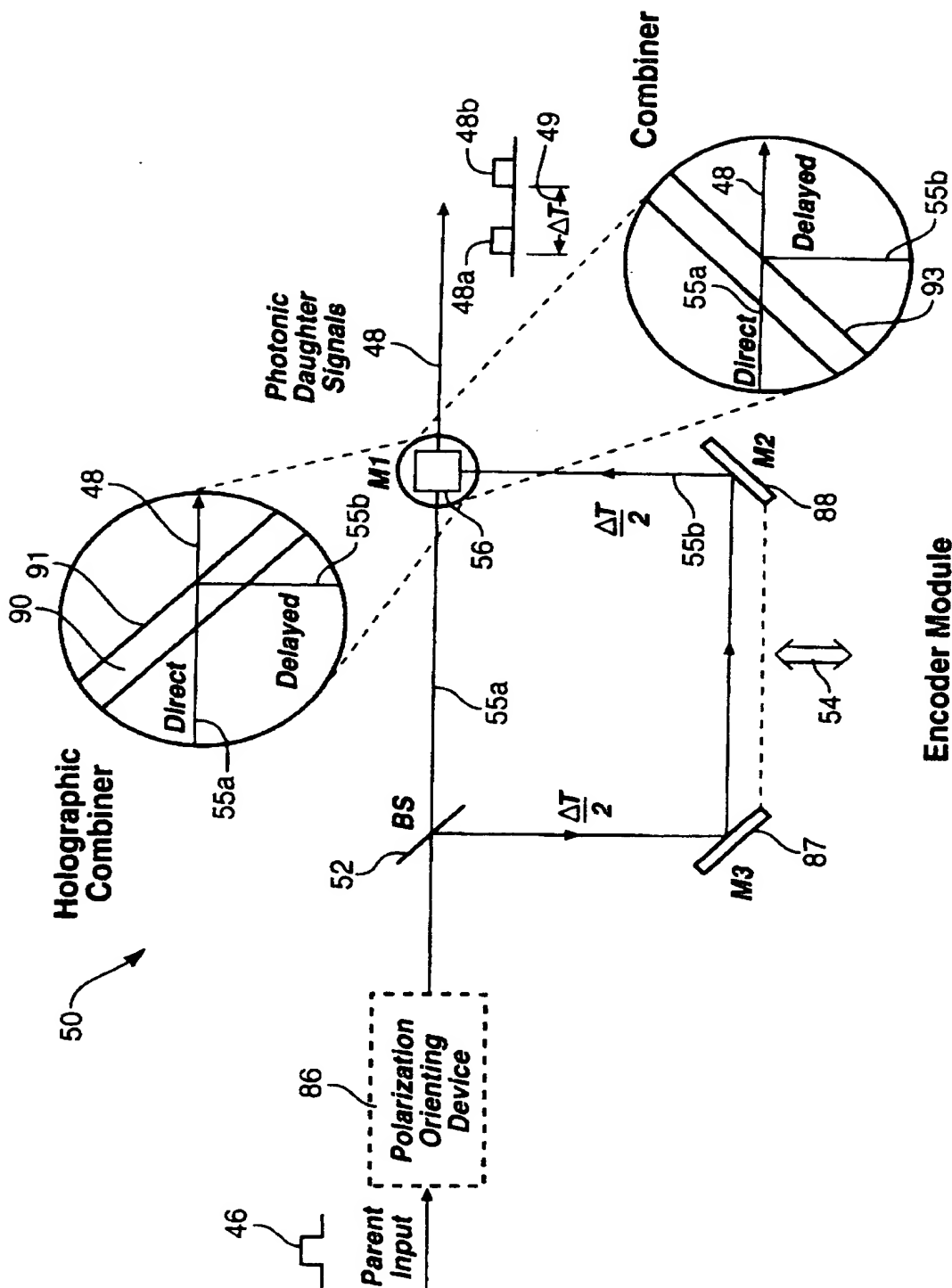
2807.2.4.



**2807.2.4.**

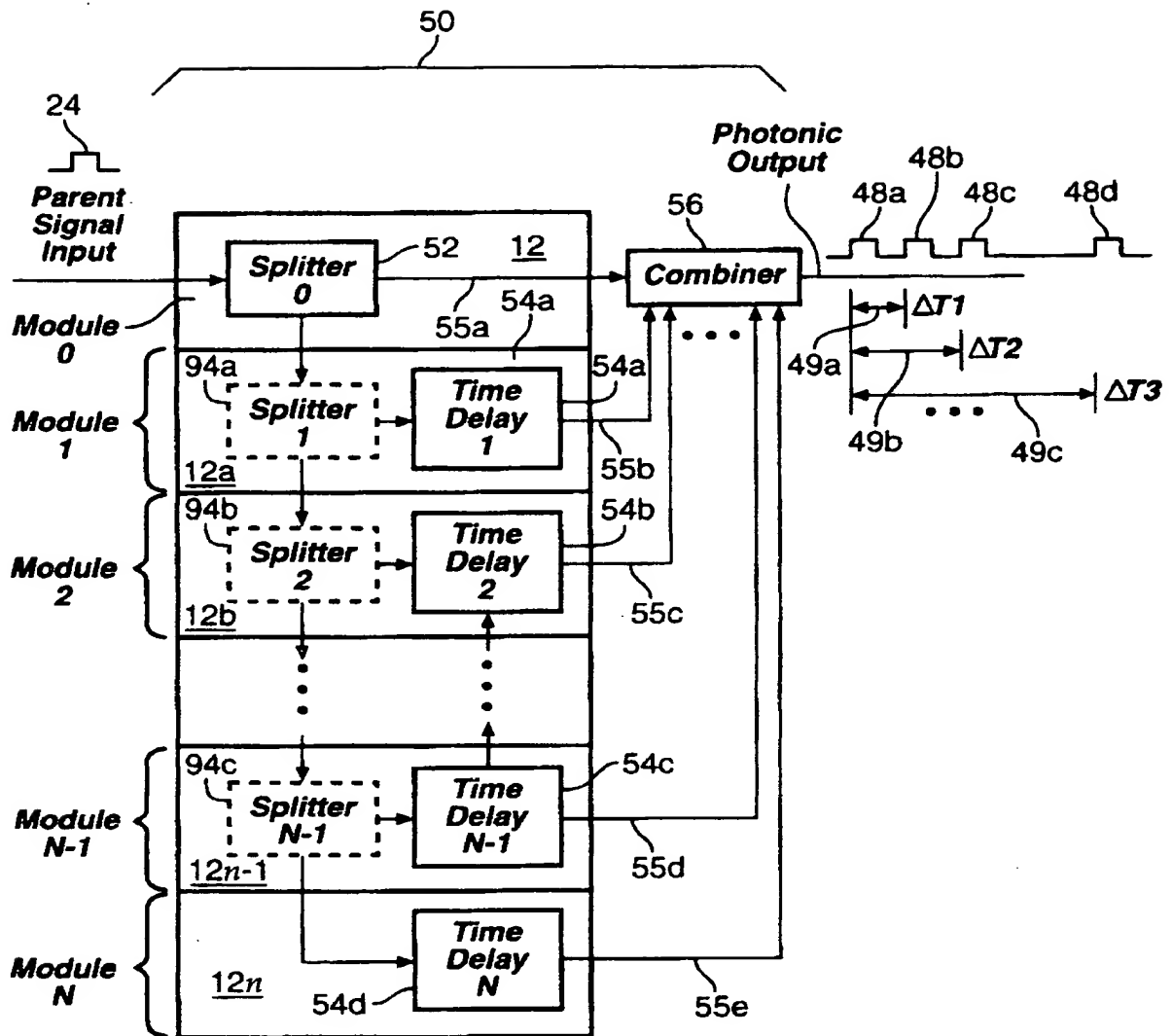


#### 2807.2.4.



**Fig. 10**

2807.2.4.



Composite Encoder  
Module Assembly

FIG. 11

2807.2.4.



**Fig. 12**

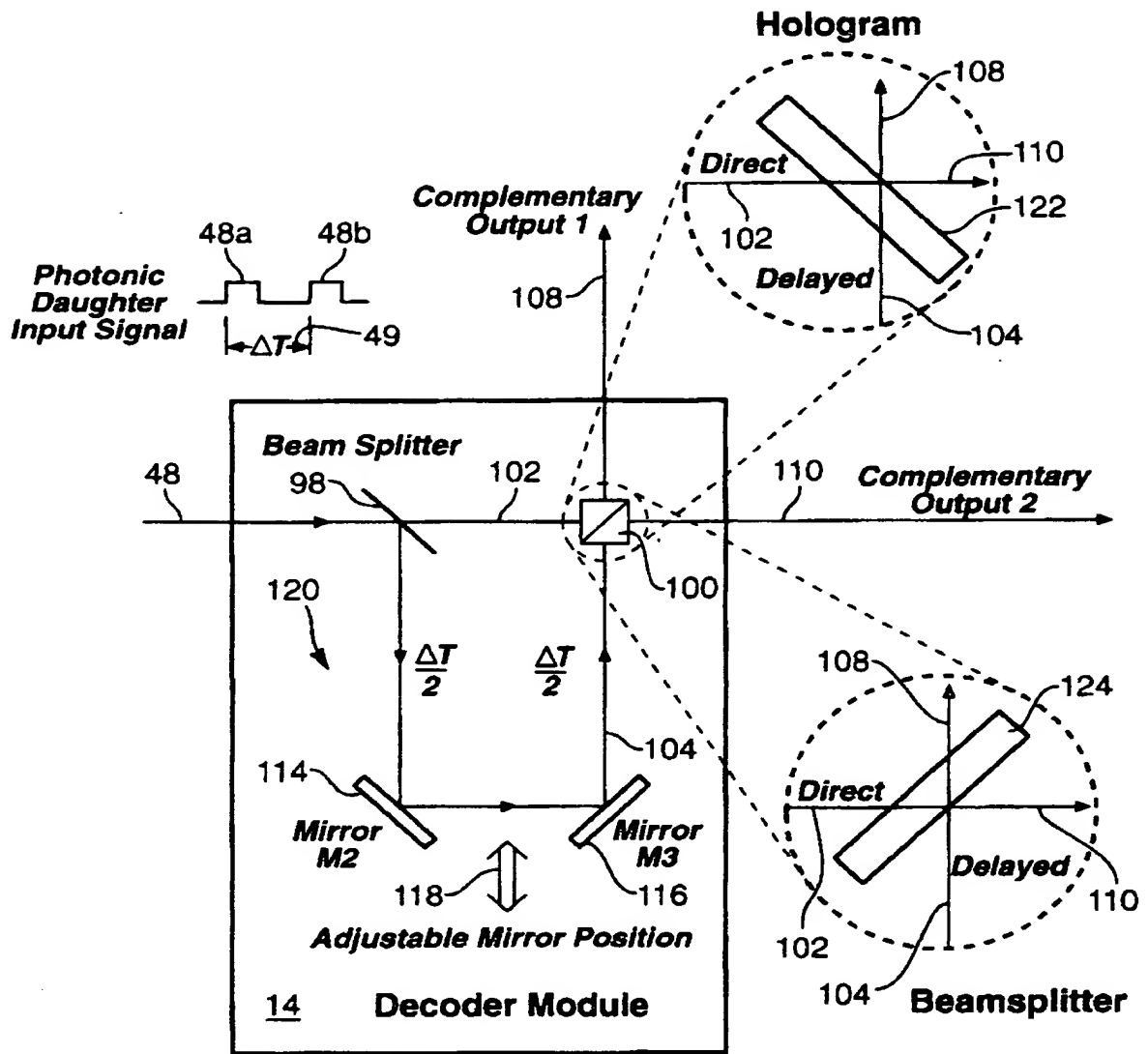


FIG. 13

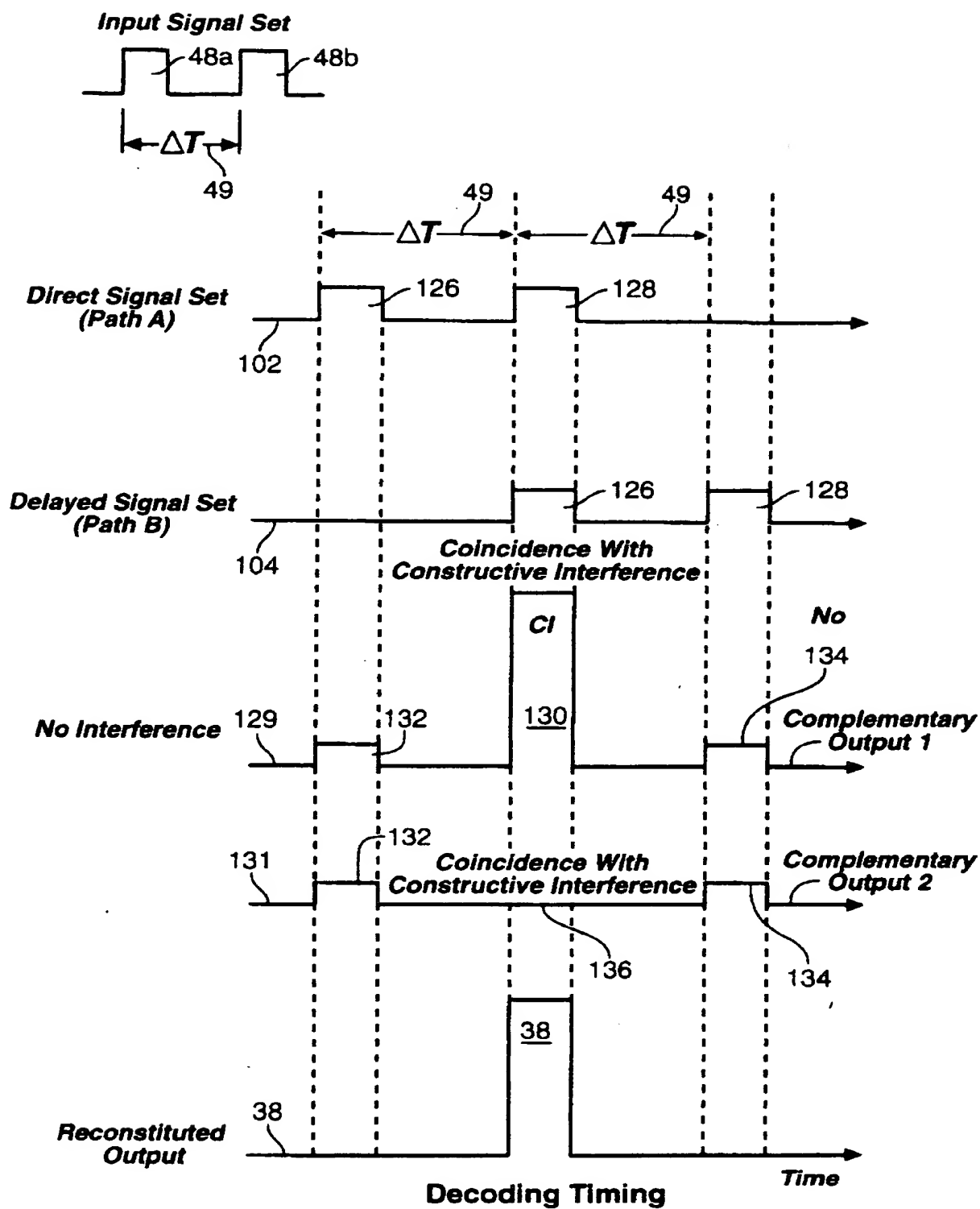


FIG. 14

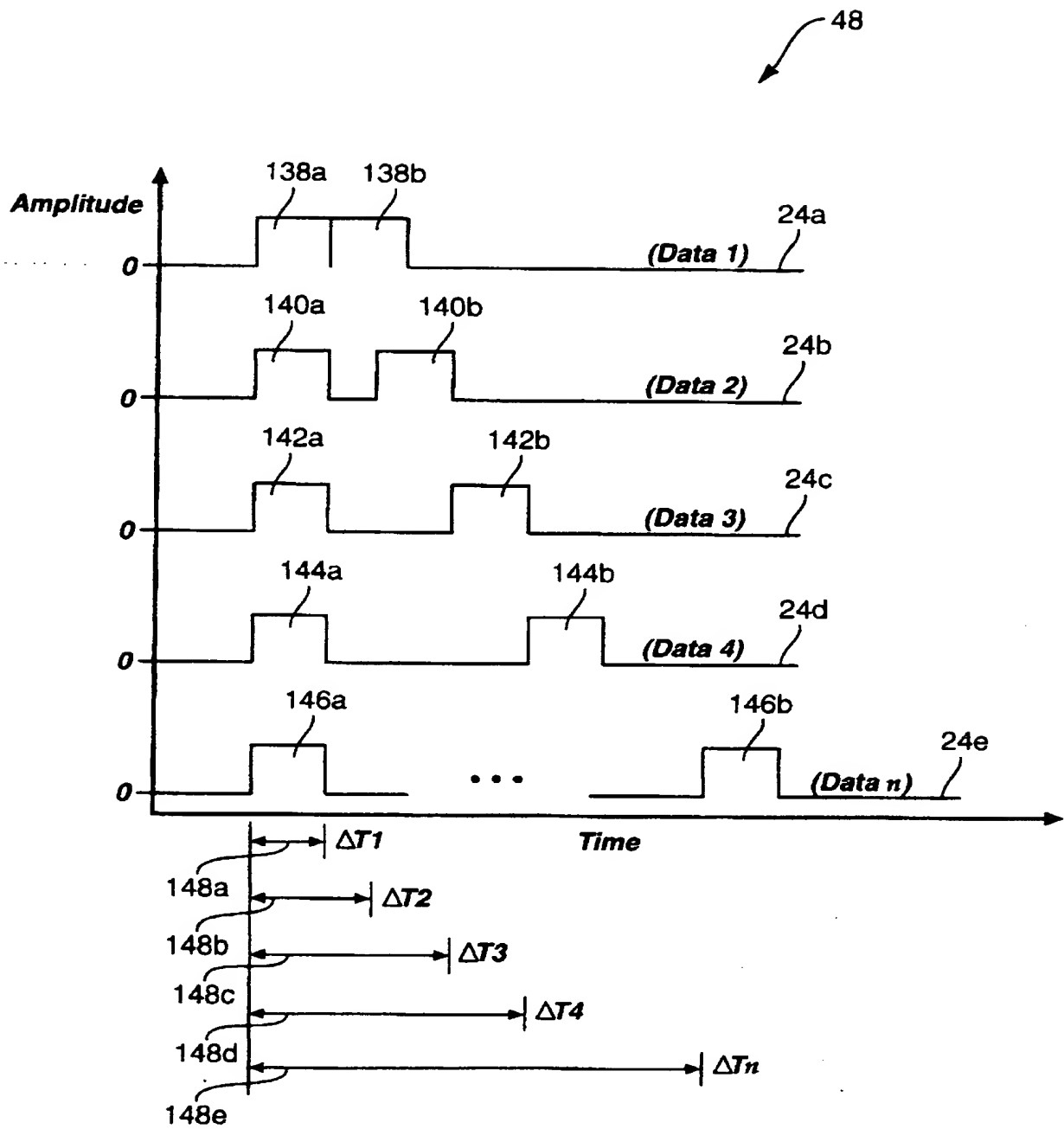


Fig. 15

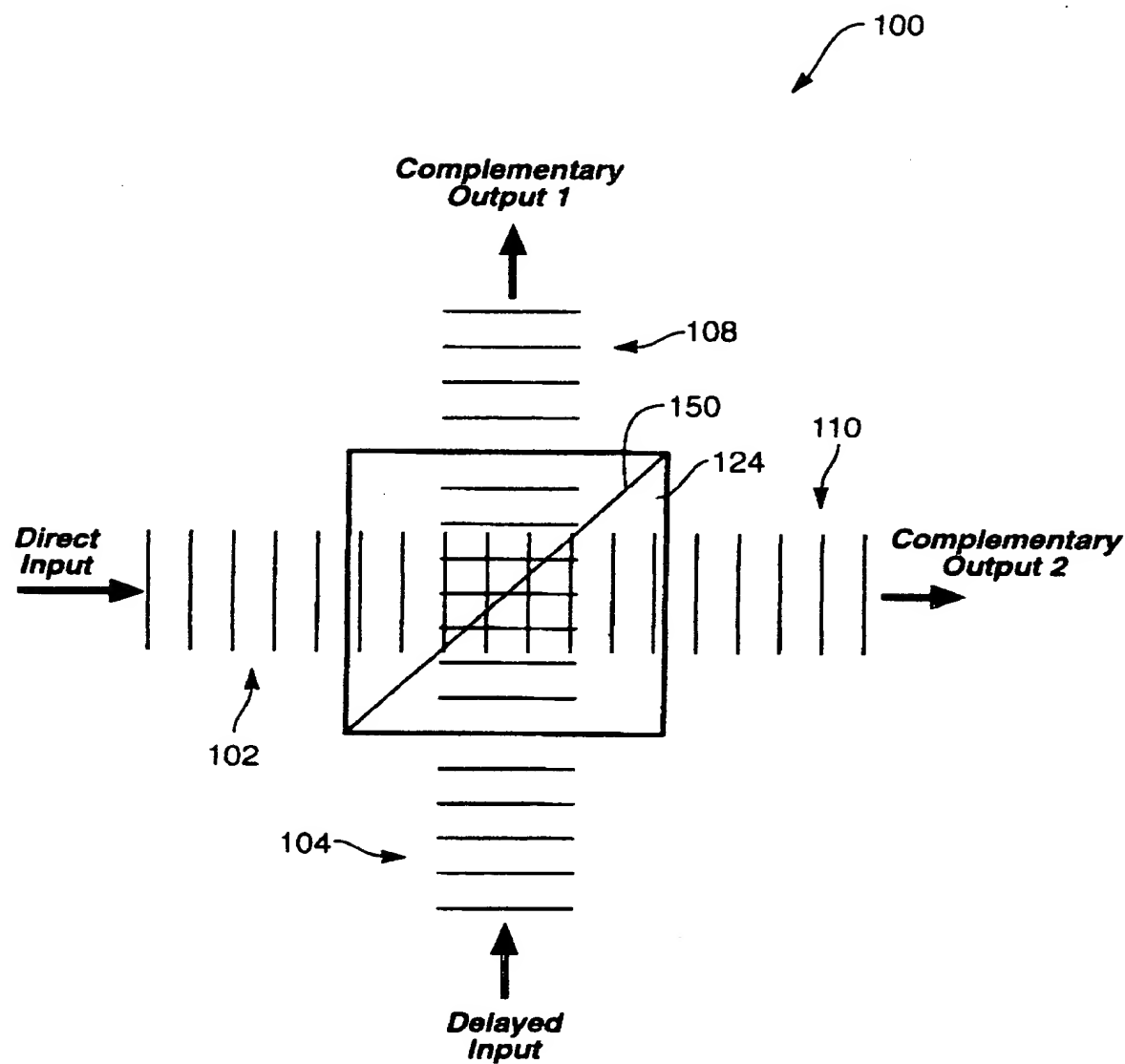


Fig. 16

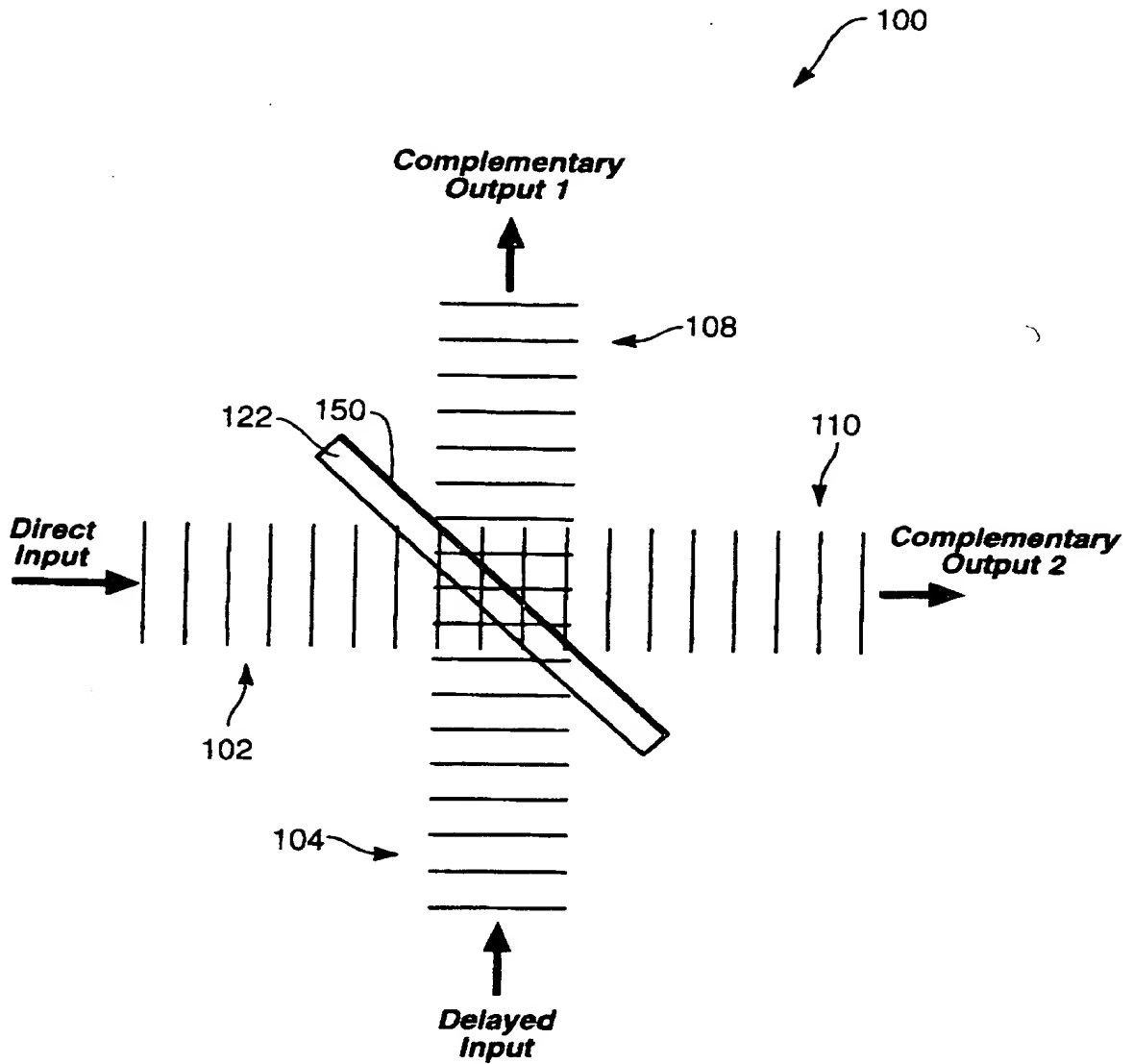
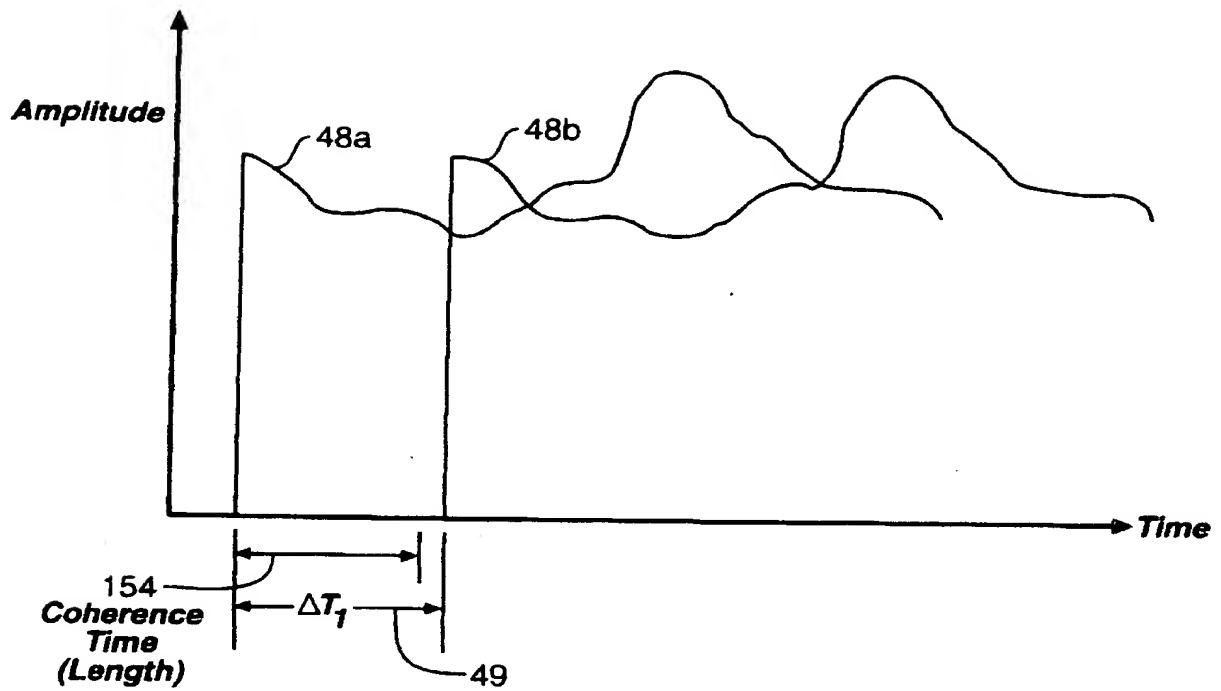
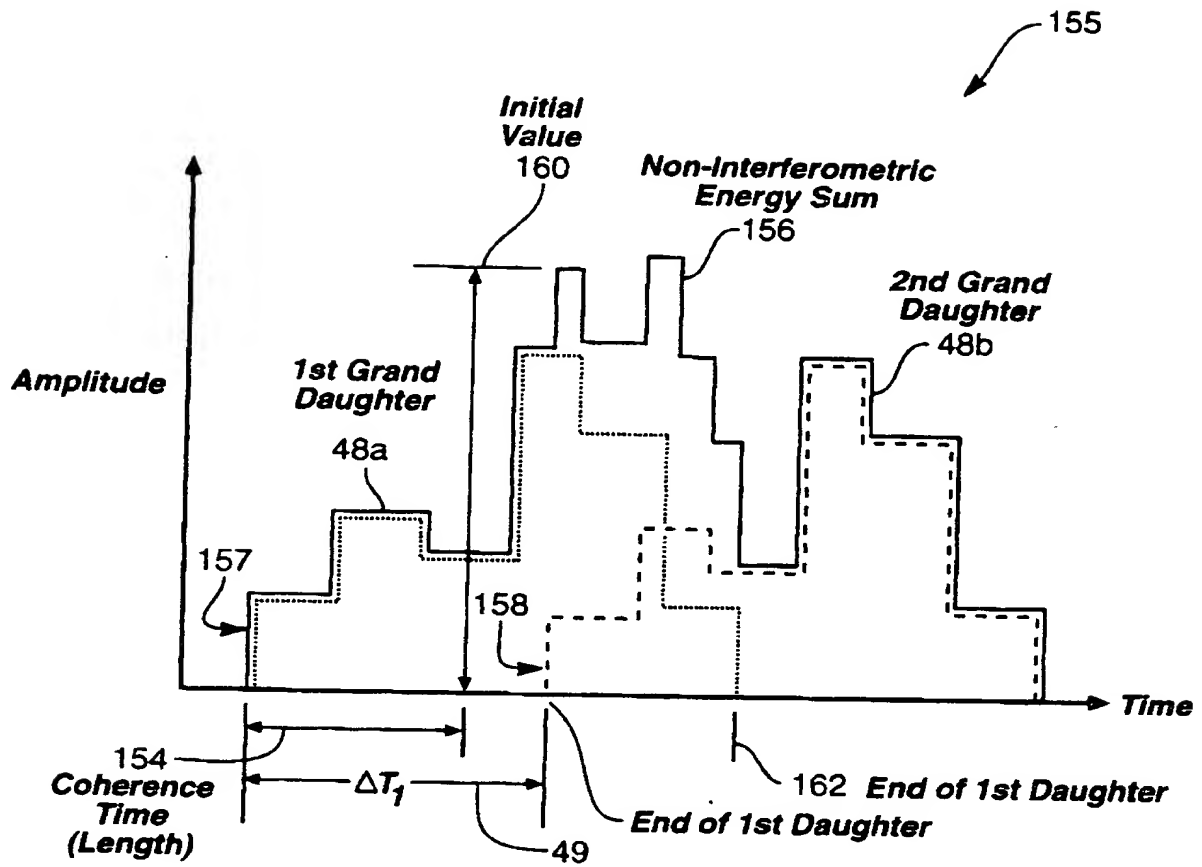


Fig. 17



**Fig. 18**



**Fig. 19**

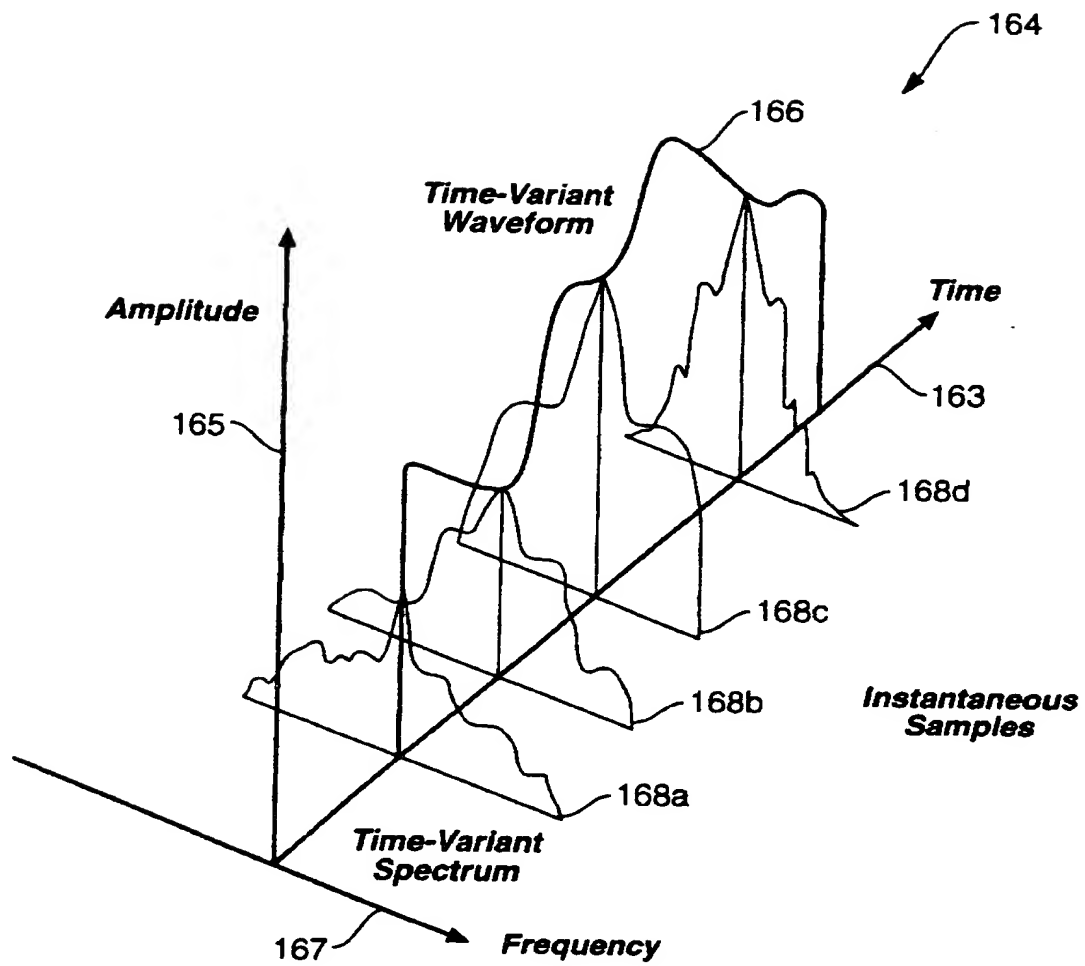


Fig. 20

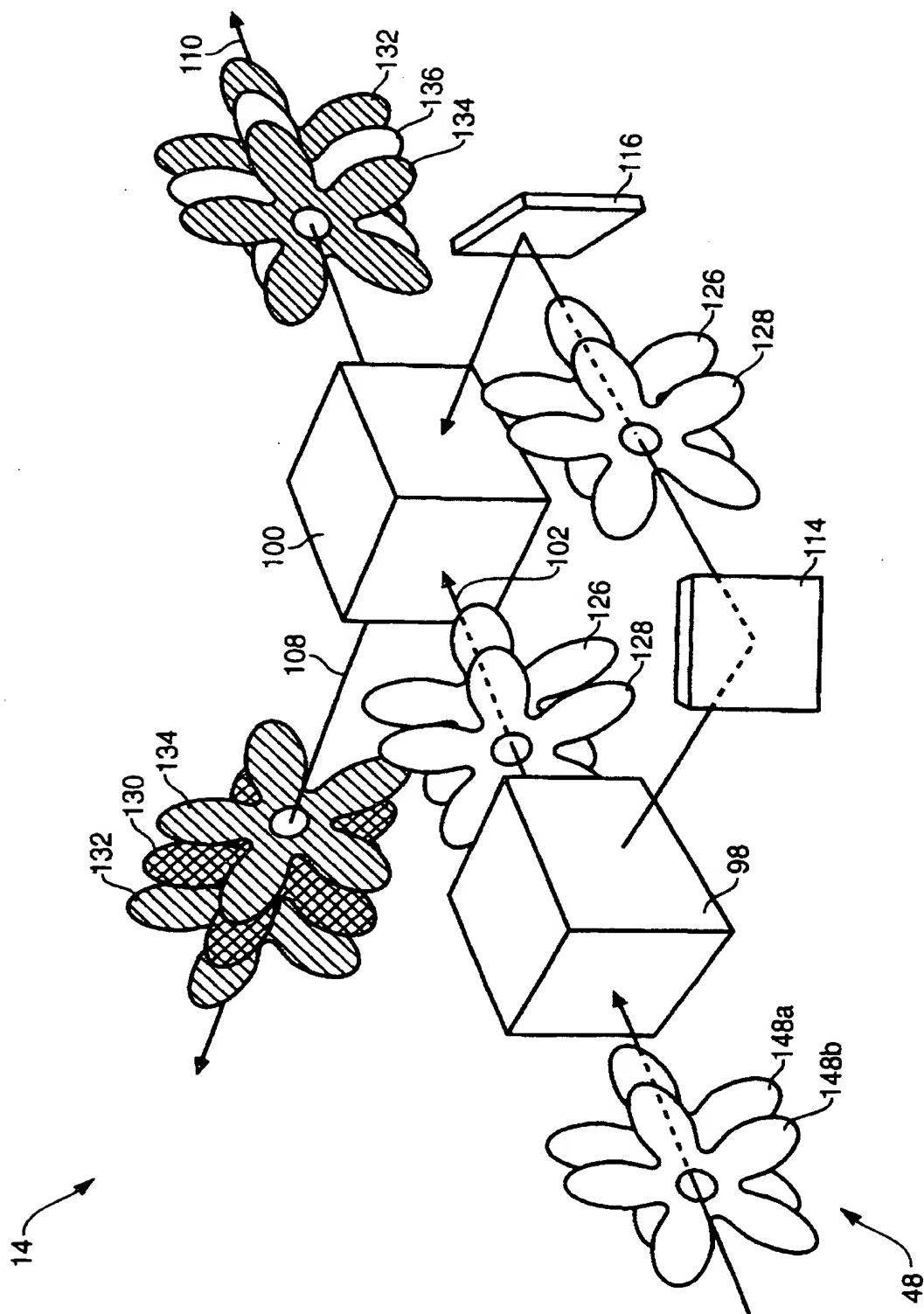
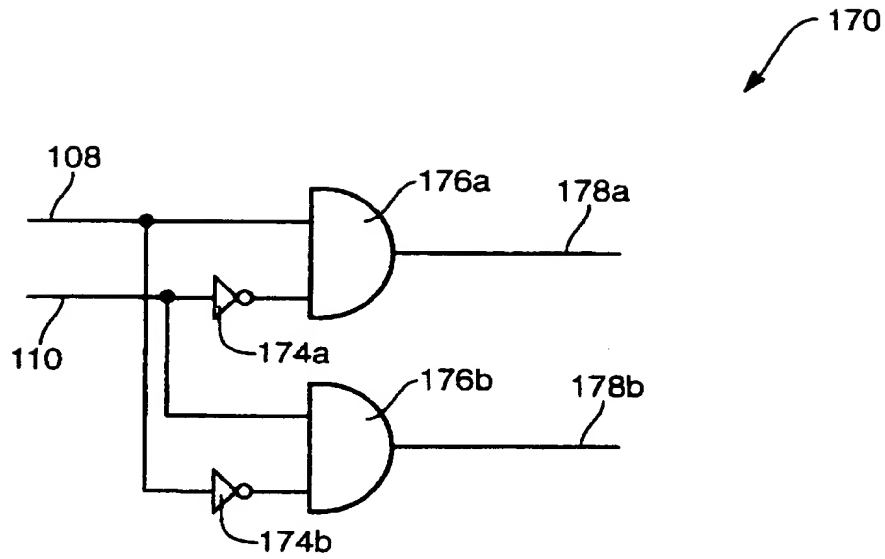
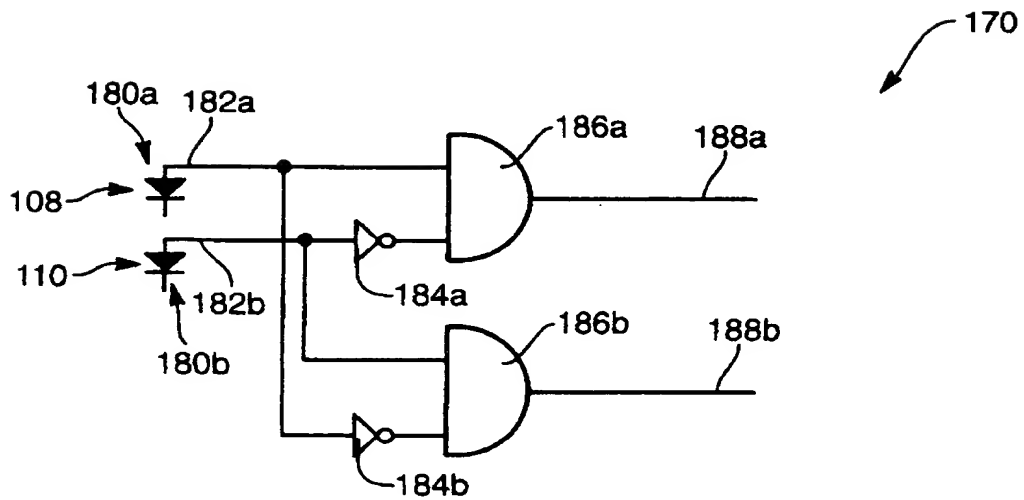


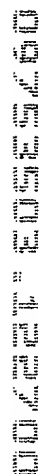
Fig. 21



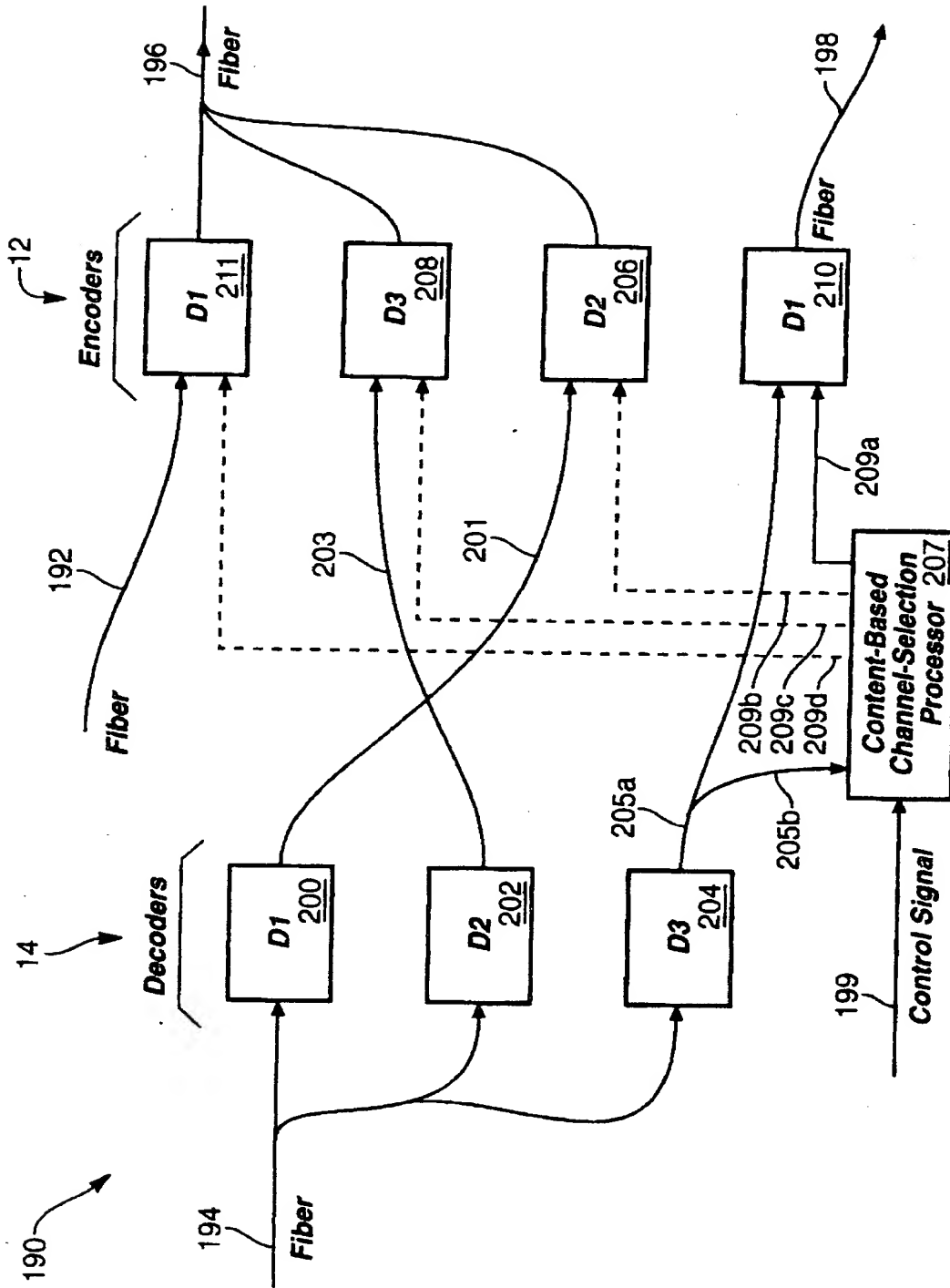
Photonic Processor  
**Fig. 22**



Electronic Processor  
**Fig. 23A**

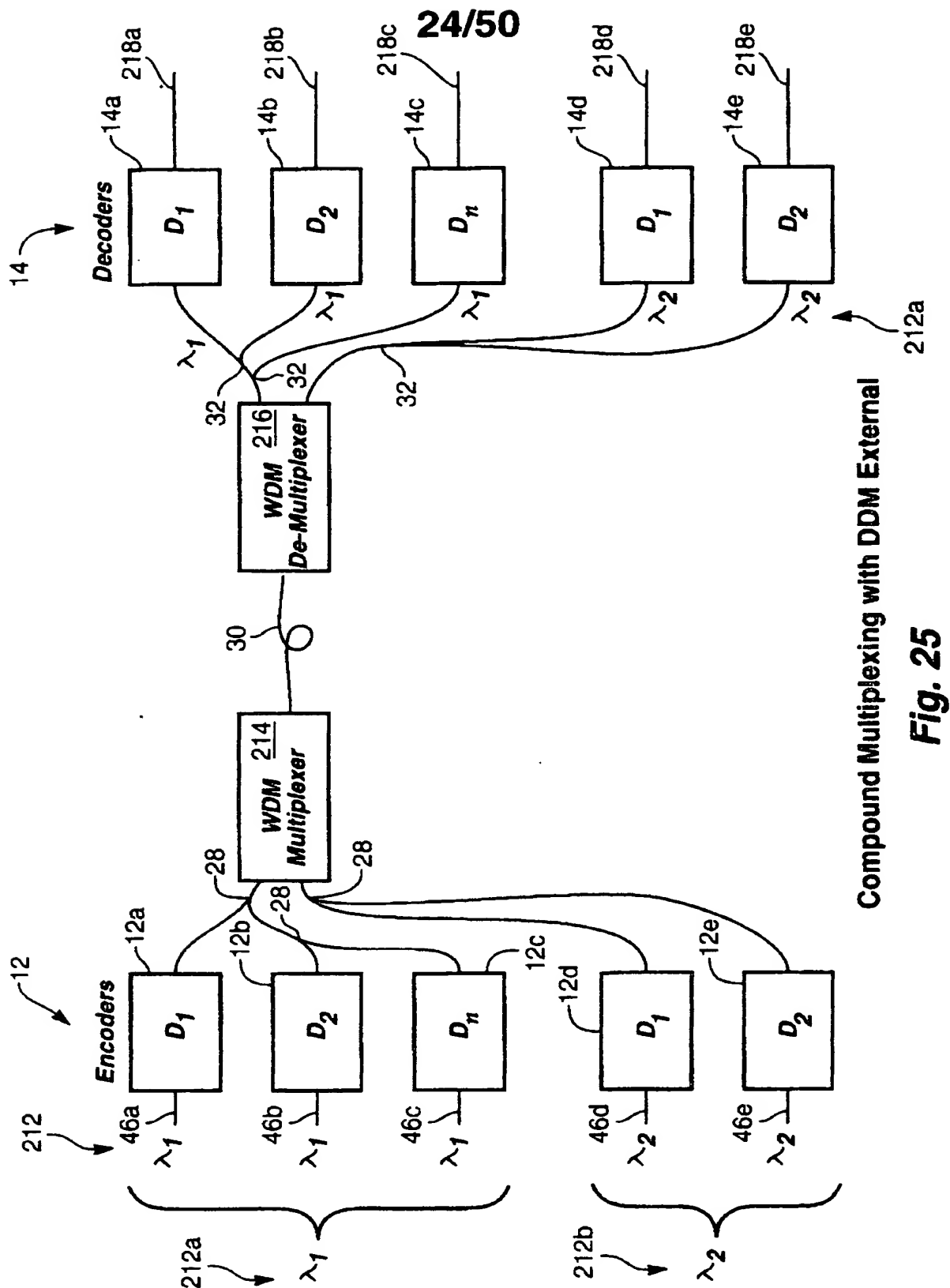


**Fig. 23B**



Drop/Rearrange/Add      Unbuilding/Rebuilding

Fig. 24



Compound Multiplexing with DDM External

Fig. 25

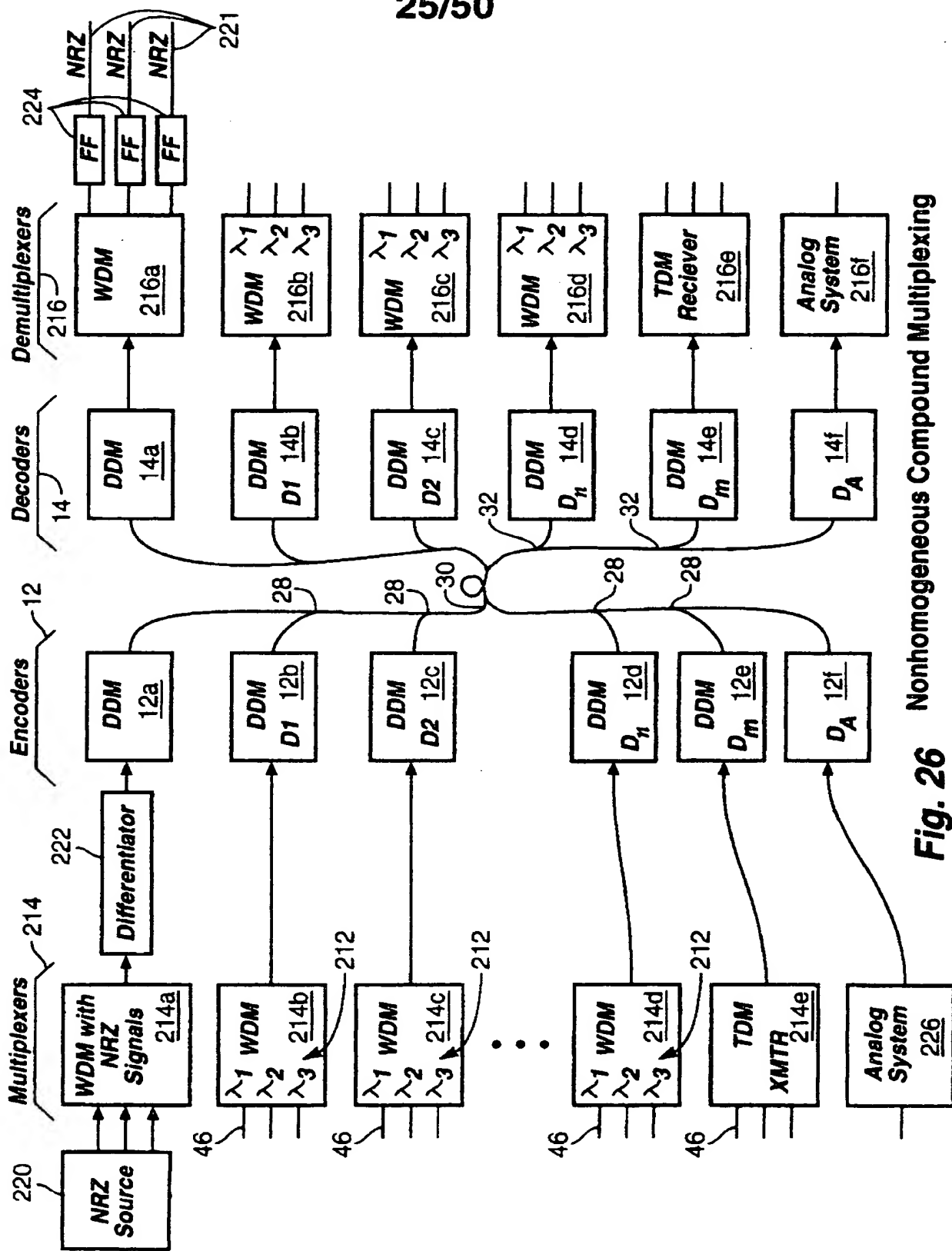
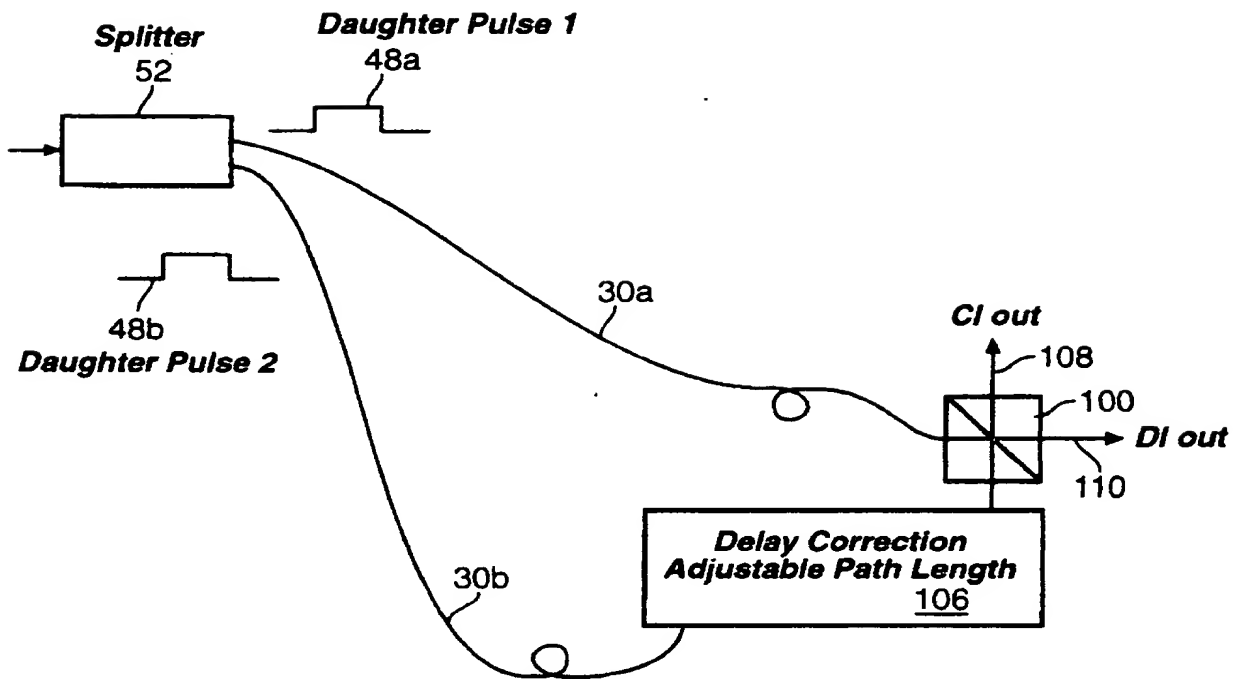


Fig. 26 Nonhomogeneous Compound Multiplexing



**Multiple Delay Path  
Integrated Delay and  
Delay Correction**

**FIG. 27**

004327 0053460

# Photonic NRZ Interface

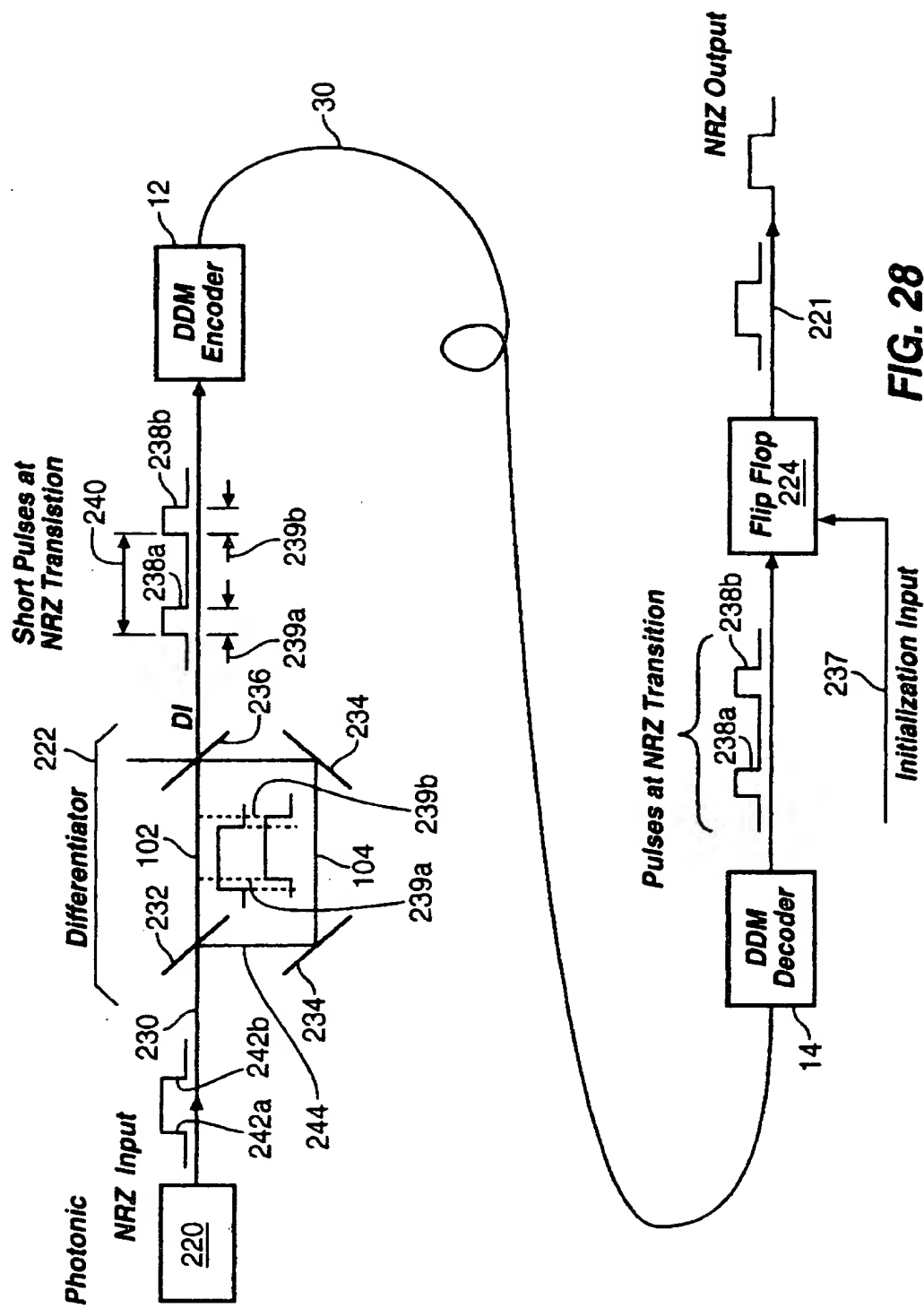


FIG. 28

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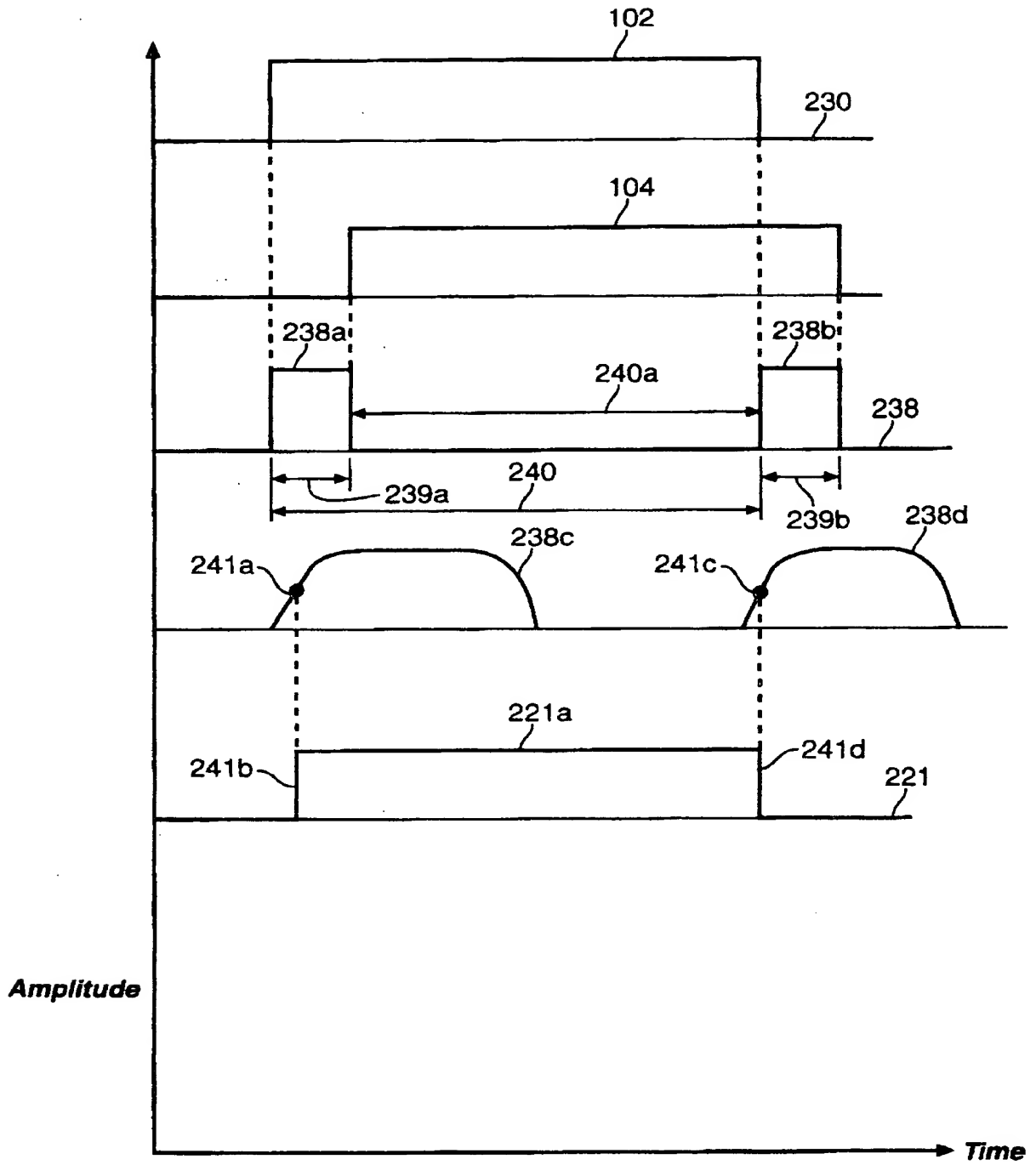
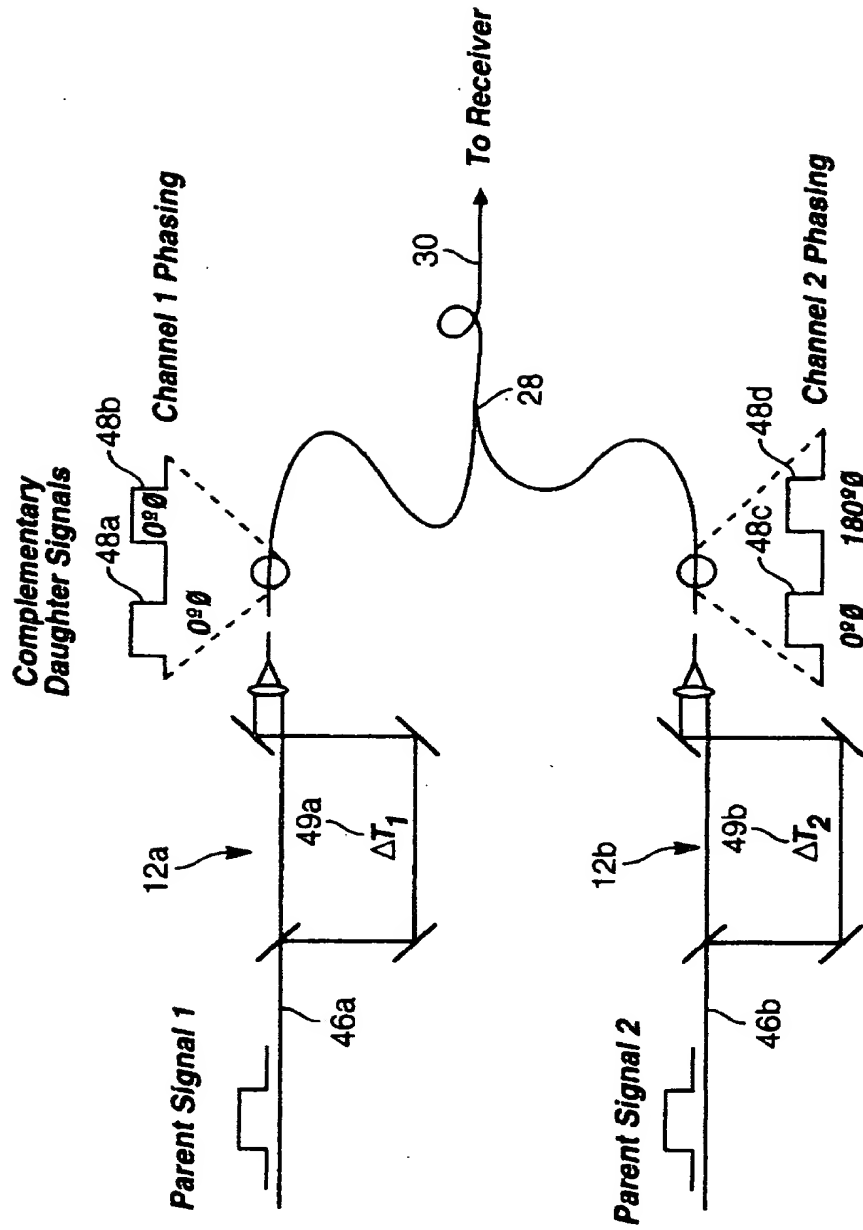


FIG. 29



Phase Sequenced Dual Channel Encoder

FIG. 30

# Phase Sequenced Dual Channel Decoder

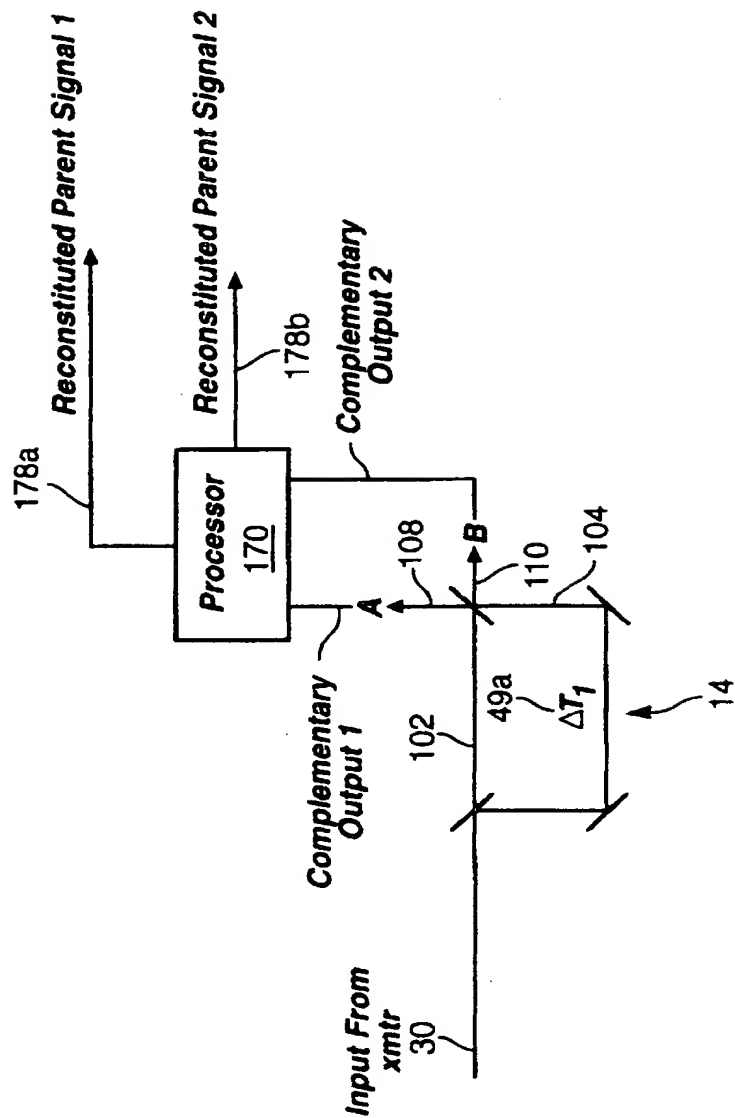


FIG. 31

Phase Sequence Timing

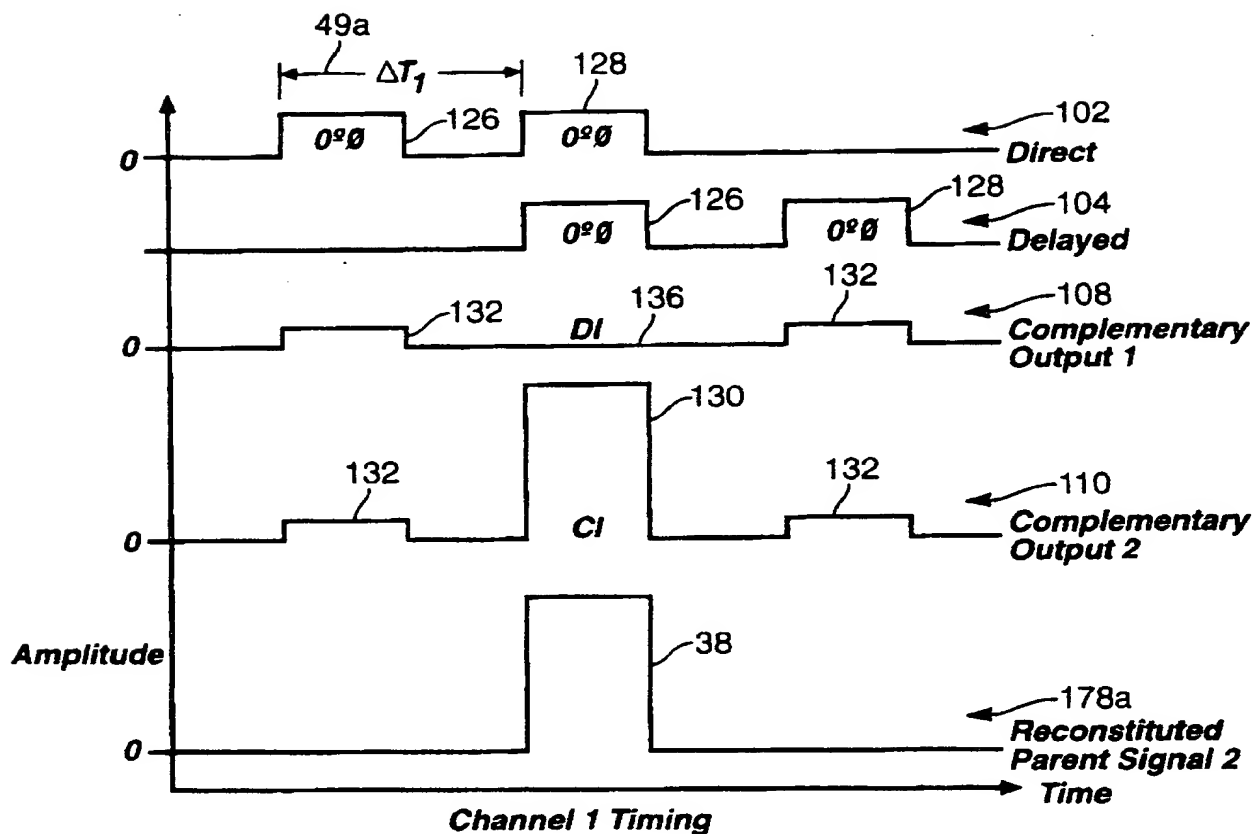


FIG. 32

# Phase Sequence Timing

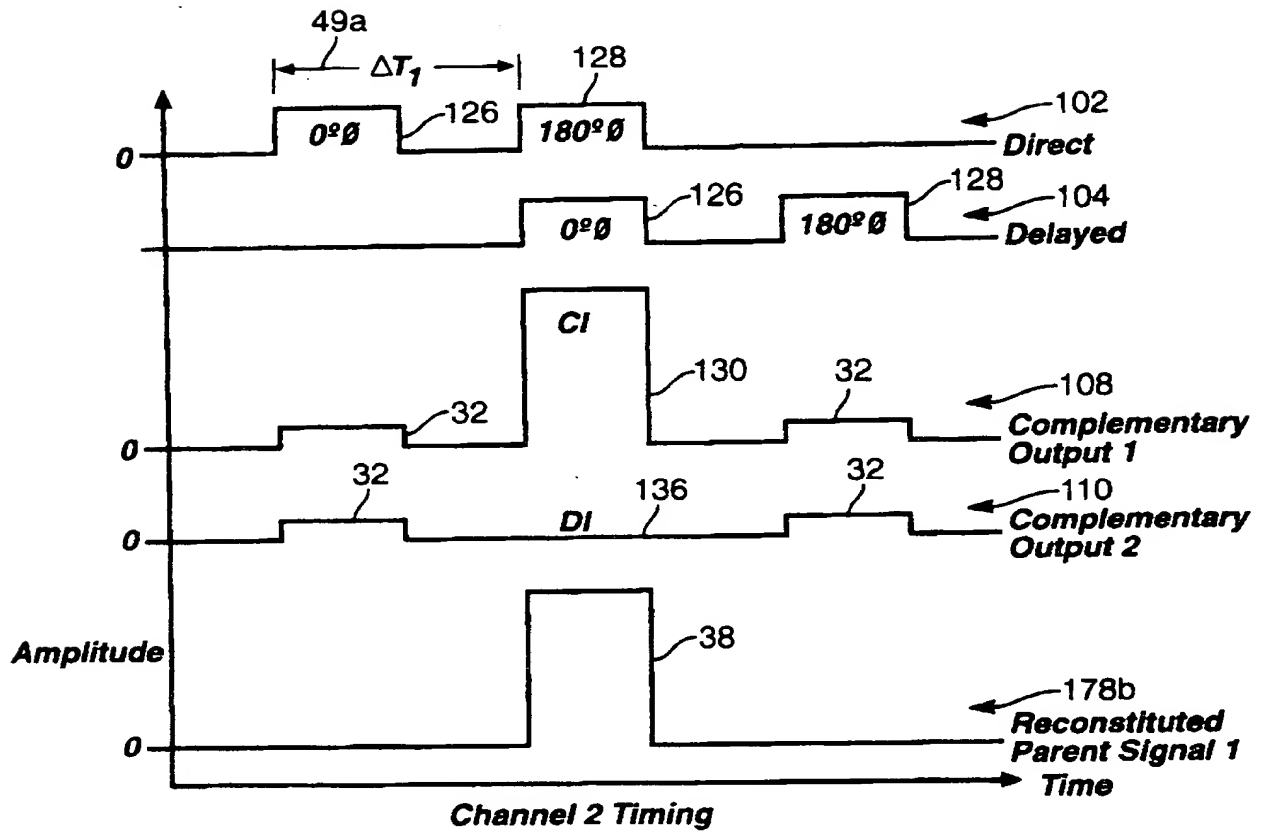
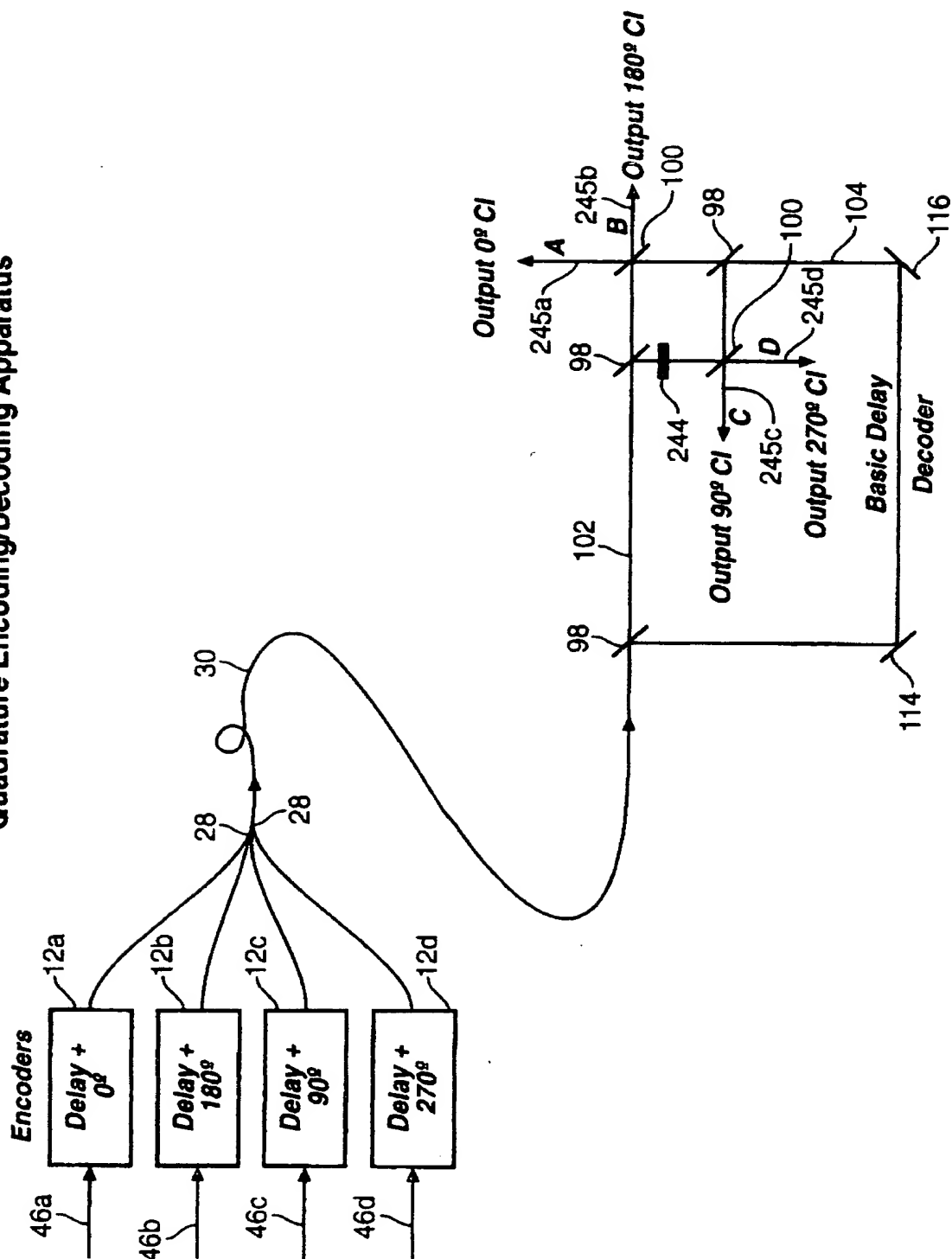


FIG. 33

## Quadrature Encoding/Decoding Apparatus



		<i>Phase of Direct Signal</i>	<i>Phase of Delayed Signal</i>	<i>Quadrature Outputs</i>			
				<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
46a	<b>Channel 1</b>	0	0	<i>CI</i>	<i>DI</i>	<i>C = D</i>	
46b	<b>Channel 2</b>	0	180	<i>DI</i>	<i>CI</i>	<i>C = D</i>	
46c	<b>Channel 3</b>	0	90	<i>A = B</i>		<i>CI</i>	<i>DI</i>
46d	<b>Channel 4</b>	0	270	<i>A = B</i>		<i>DI</i>	<i>CI</i>

245a    245b    245c    245d

FIG. 35

Quadrature Wave Forms For One Channel

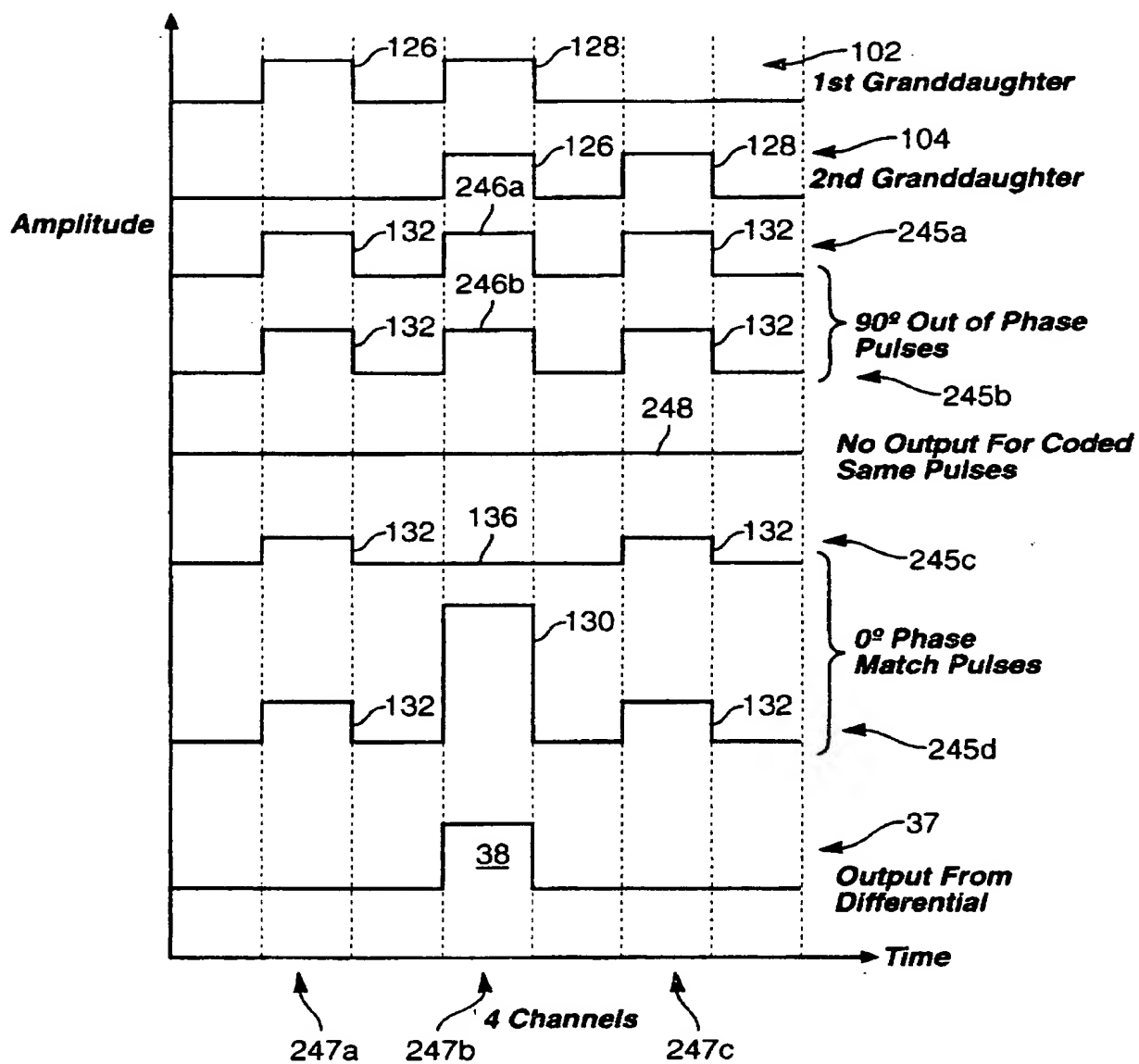


FIG. 36

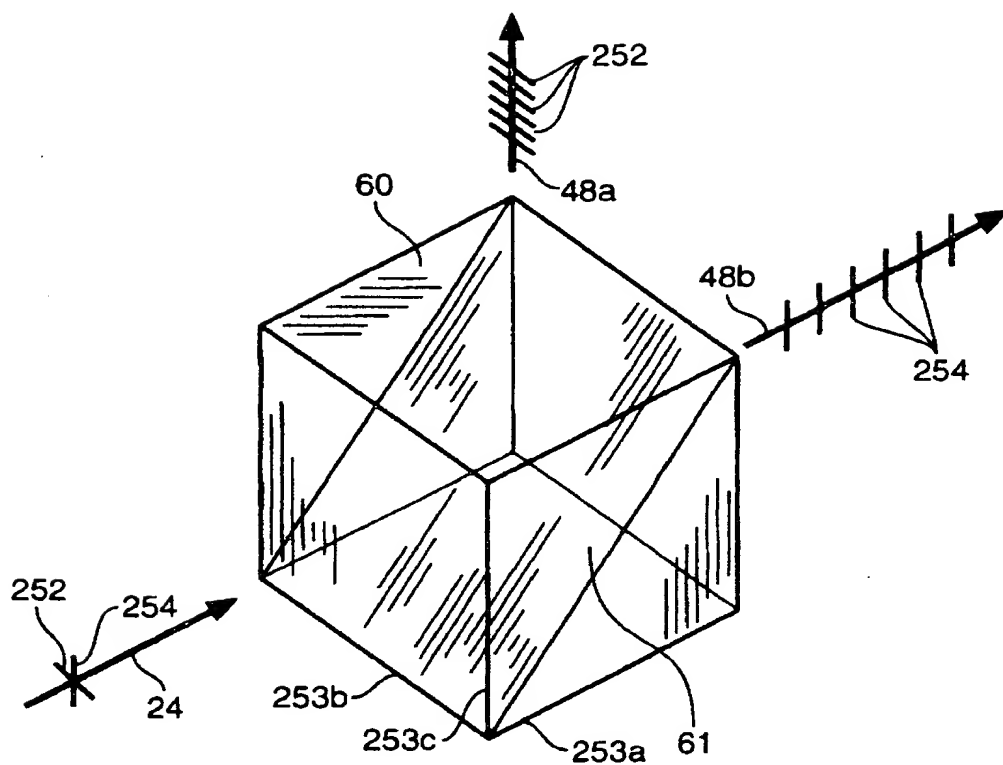


FIG. 37A

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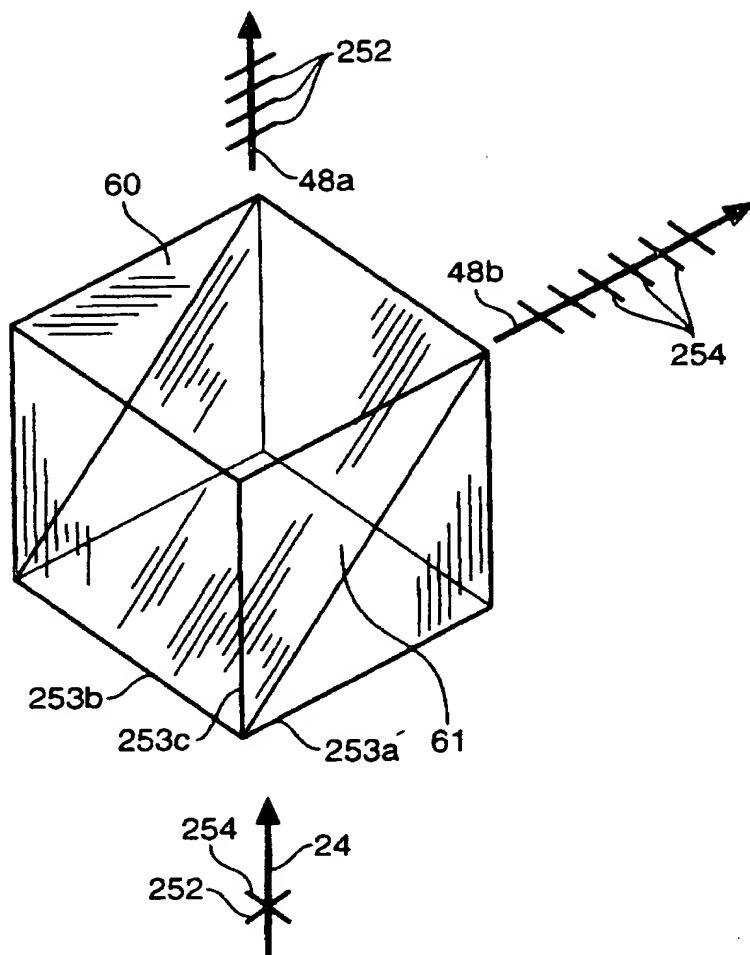
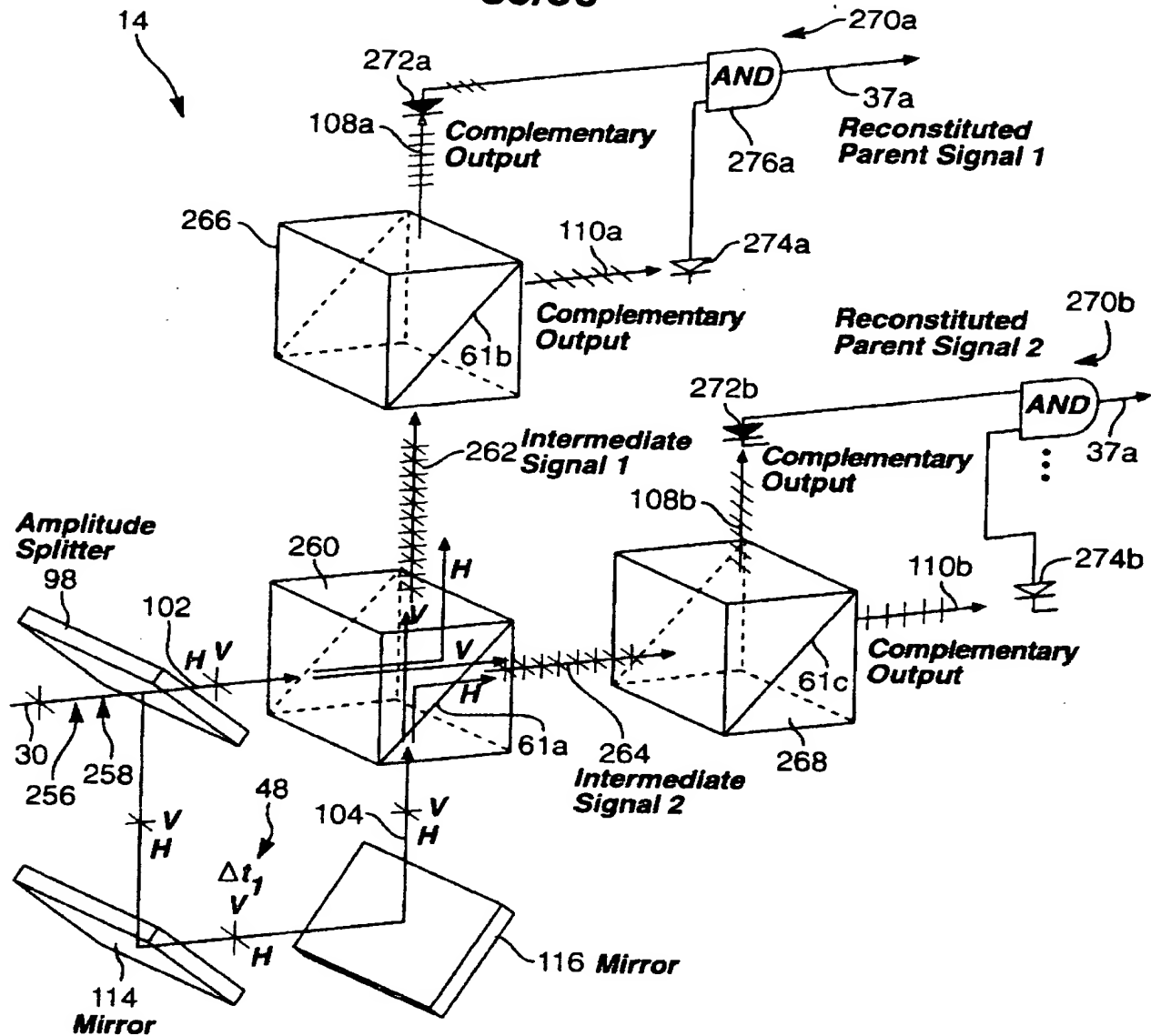


FIG. 37B



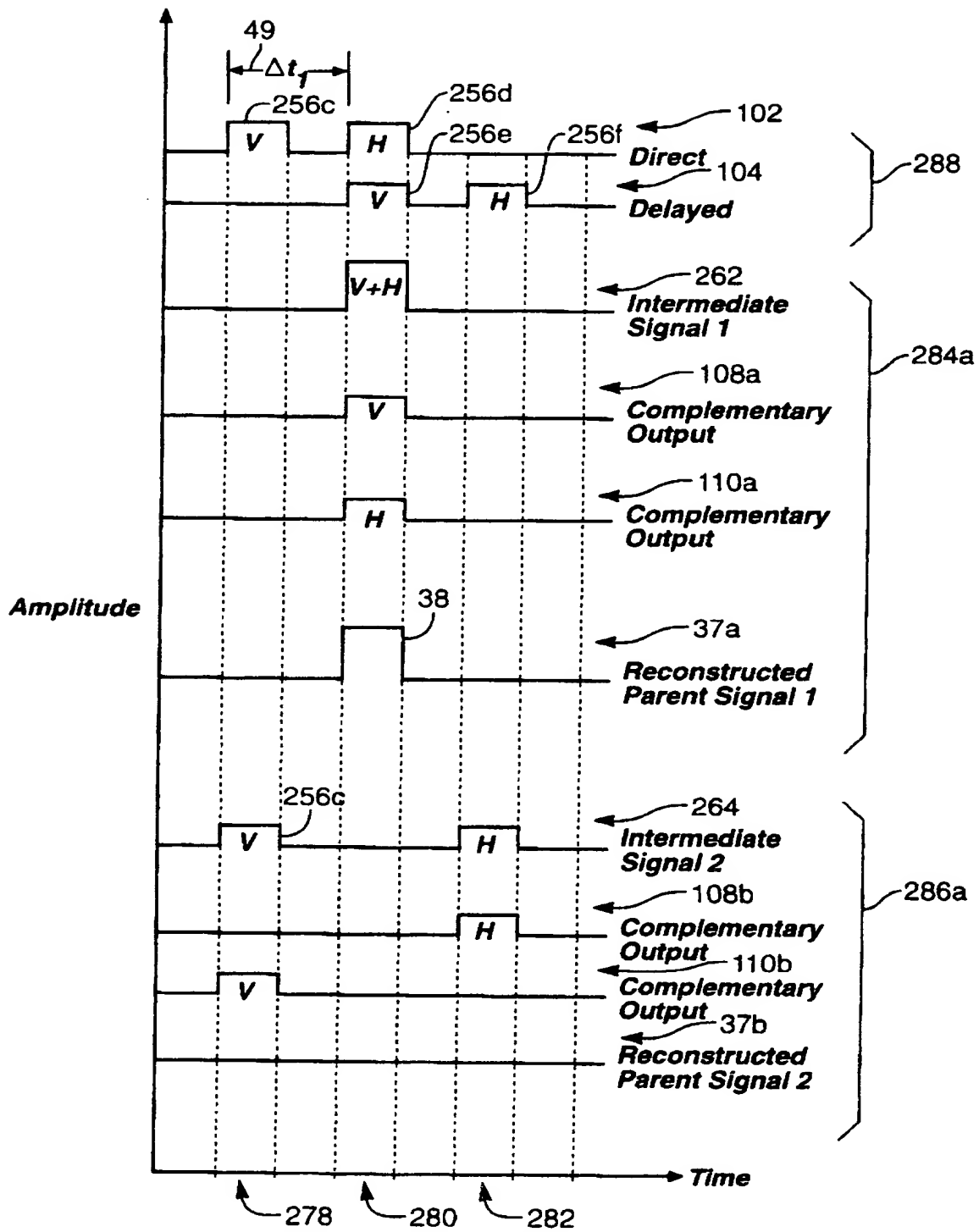
**FIG. 38**

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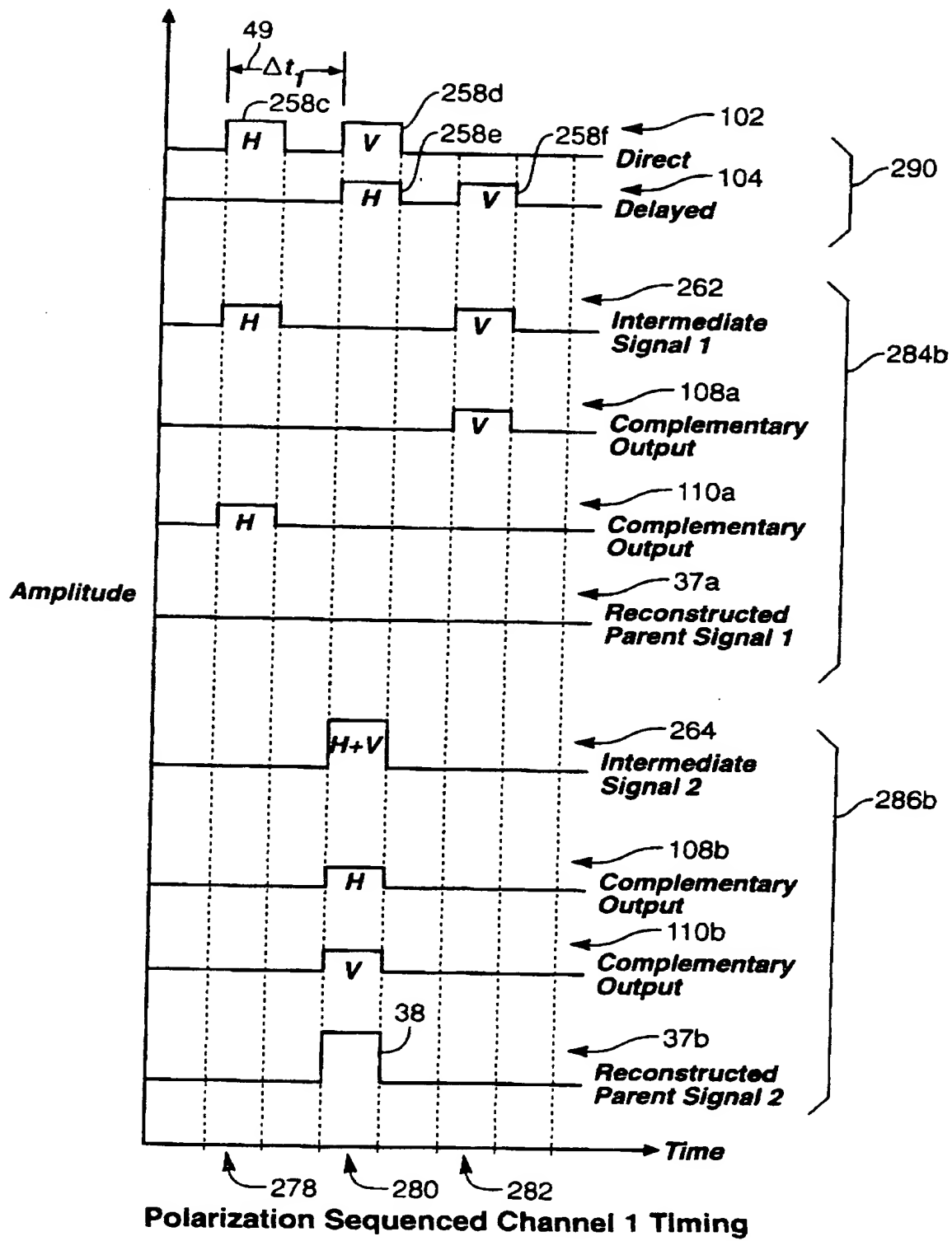
Double Decoder With Polarizations Sequenced to Differentiate 2 Channels Having the Same Time Delay Between Daughter Signals

FIG. 39



Polarization Sequenced Channel 1 Timing

**FIG. 40**



[illegible]

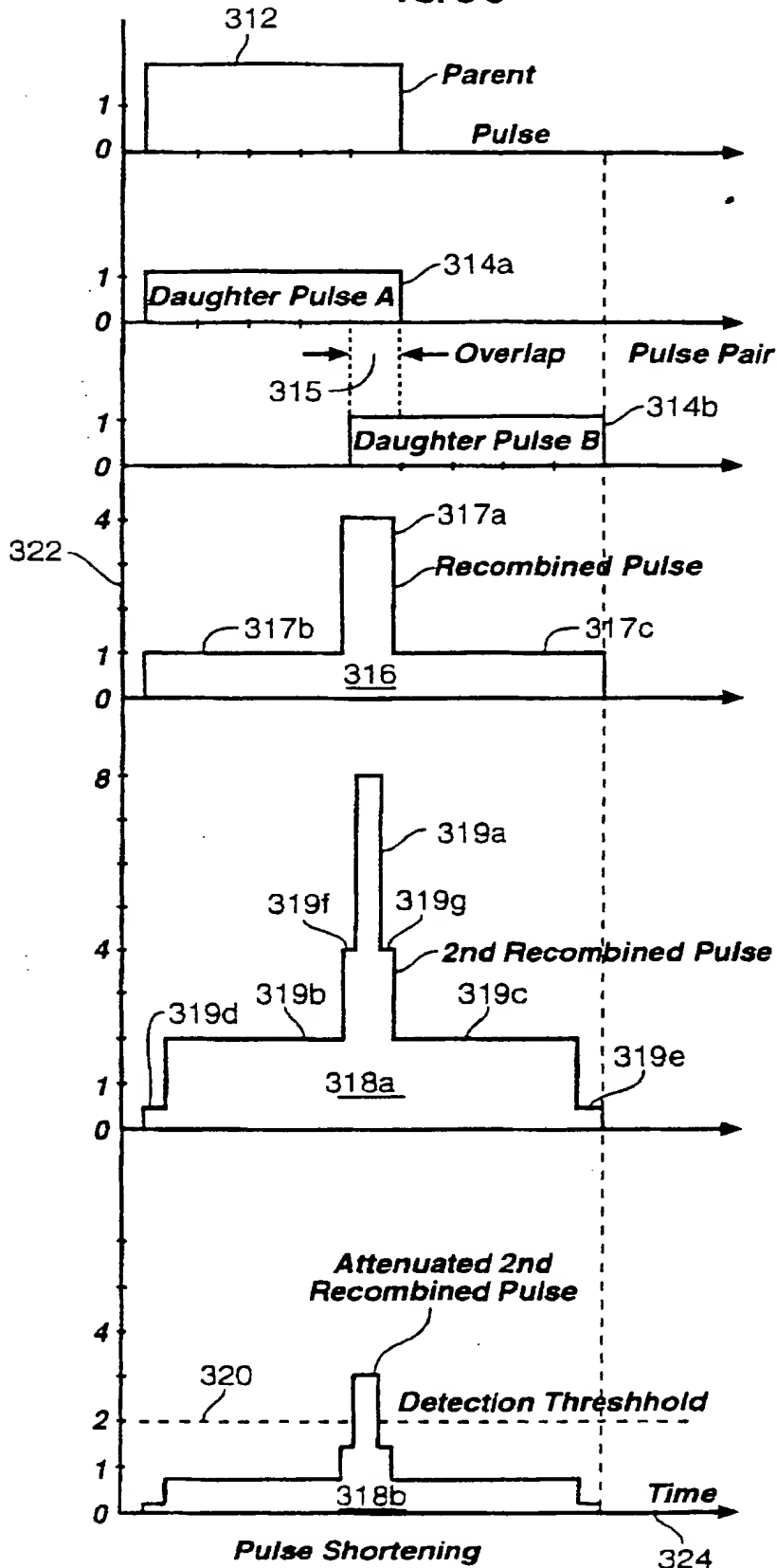


FIG. 43



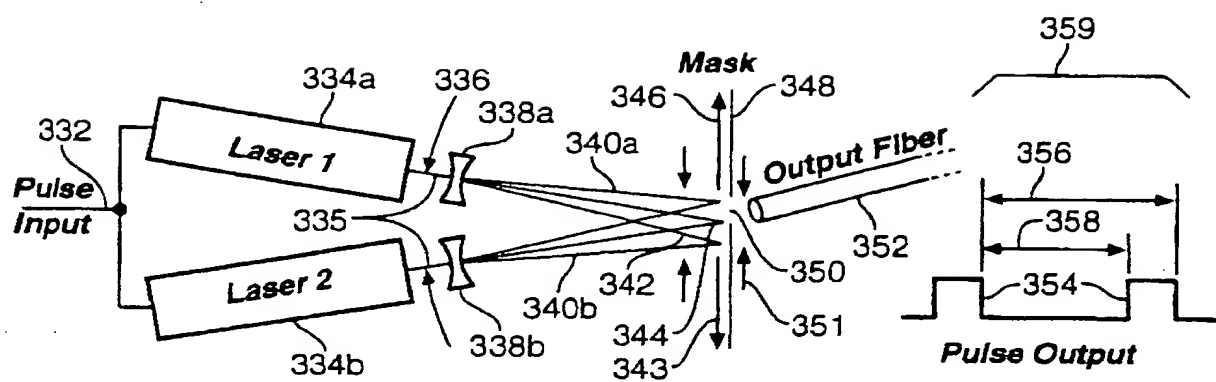
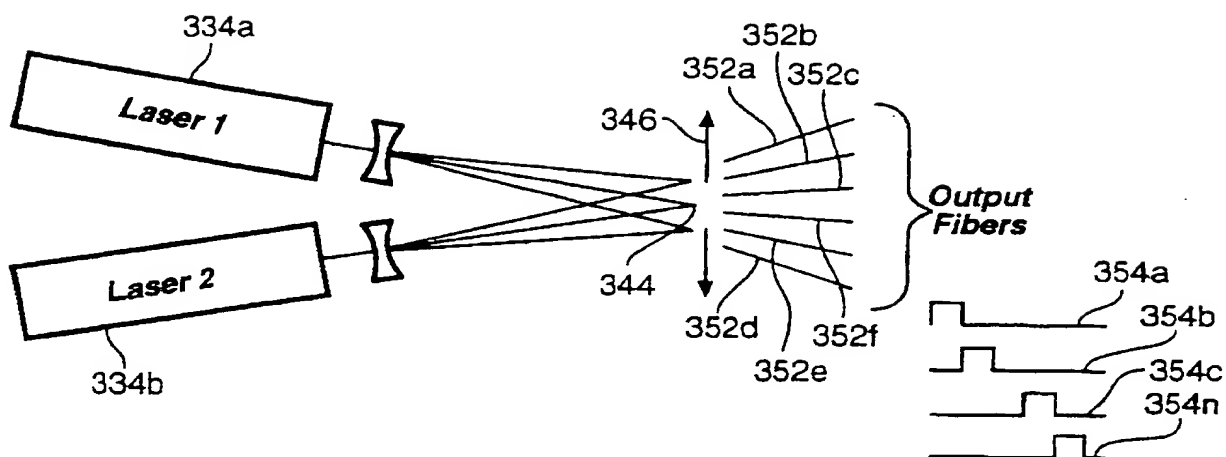


FIG. 45

**FIG. 46**



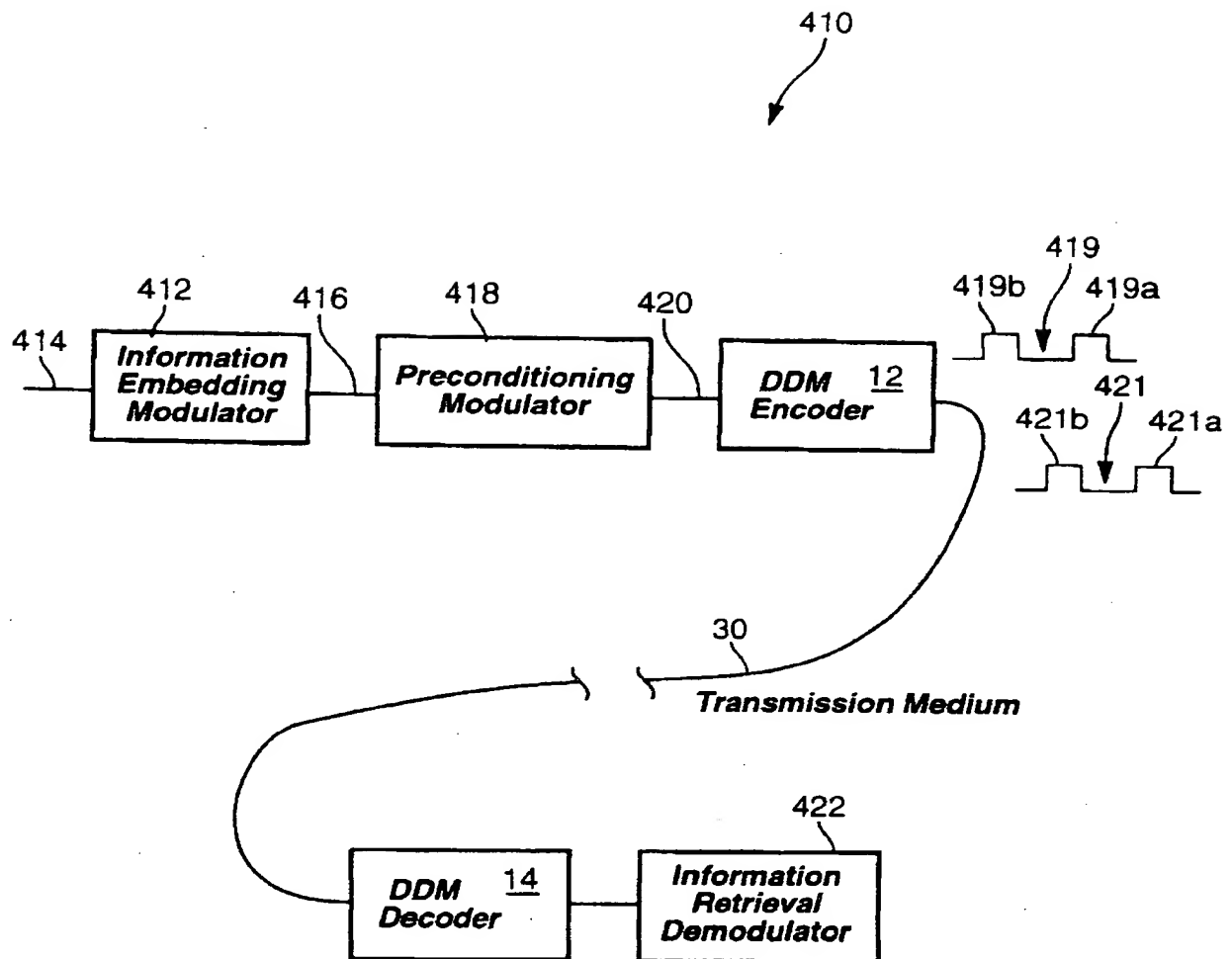
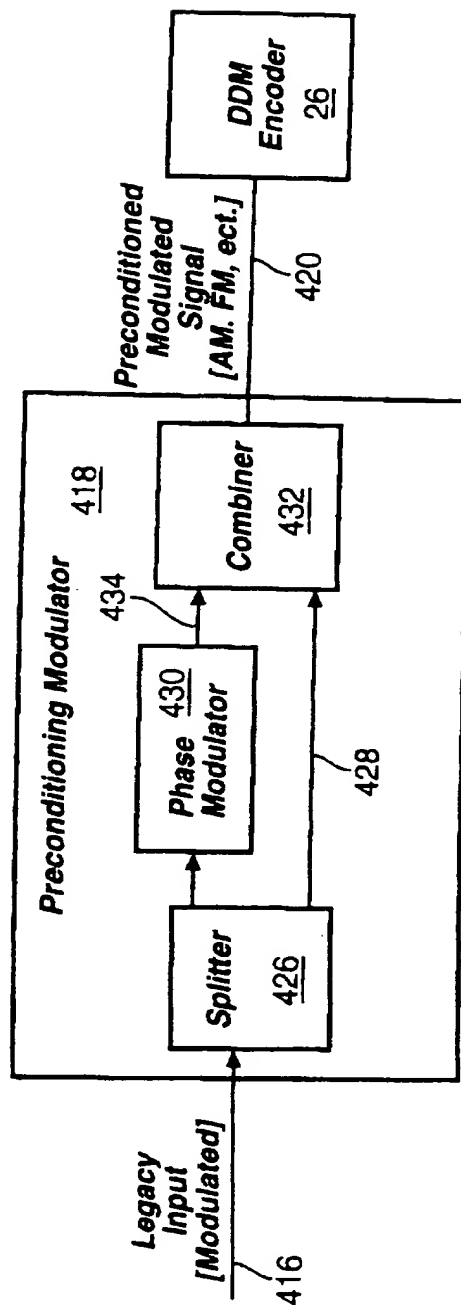


FIG. 48



**FIG. 49**

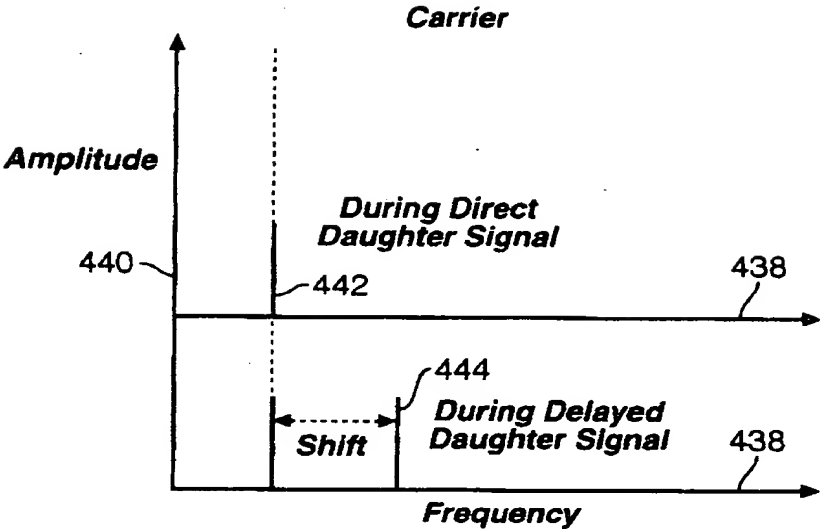


FIG. 50